UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2018

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM TO

Commission File Number 001-37880

Novan, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**20-4427682**
(State or other jurisdiction of incorporation or organization	**(I.R.S. Employer Identification No.)**
4105 Hopson Road Morrisville, North Carolina	**27560**
(Address of principal executive offices)	**(zip code)**

(919) 485-8080
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Sections 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated filer	☐	Accelerated filer	☐
Non-Accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☒
Emerging growth company	☒		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

As of August 3, 2018, there were 26,040,442 shares of the registrant's Common Stock outstanding.

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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements

NOVAN, INC.
Condensed Consolidated Balance Sheets
(unaudited)
(in thousands, except share and per share amounts)

	June 30, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 20,984	$ 2,524
Prepaid expenses and other current assets	625	1,180
Total current assets	21,609	3,704
Other assets	775	806
Property and equipment, net	16,327	16,624
Total assets	$ 38,711	$ 21,134
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable	$ 1,056	$ 479
Accrued compensation	1,380	2,168
Accrued outside research and development services	1,408	1,392
Accrued legal and professional fees	267	504
Other accrued expenses	1,443	1,700
Deferred revenue, current portion	2,595	2,631
Capital lease obligation, current portion	11	11
Total current liabilities	8,160	8,885
Deferred revenue, net of current portion	4,648	5,946
Capital lease obligation, net of current portion	16	21
Warrant liability	13,537	—
Facility financing obligation	7,998	7,998
Total liabilities	34,359	22,850
Commitments and contingencies (Notes 2, 3 and 6)		
Stockholders' equity (deficit)		
Preferred stock $0.0001 par value; 10,000,000 shares designated as of June 30, 2018 and December 31, 2017; 0 shares issued and outstanding as of June 30, 2018 and December 31, 2017	—	—
Common stock $0.0001 par value; 200,000,000 shares authorized as of June 30, 2018 and December 31, 2017; 26,049,942 and 16,014,908 shares issued as of June 30, 2018 and December 31, 2017, respectively; 26,040,442 and 16,005,408 shares outstanding as of June 30, 2018 and December 31, 2017, respectively	3	2
Additional paid-in capital	176,953	158,091
Treasury stock at cost, 9,500 shares as of June 30, 2018 and December 31, 2017	(155)	(155)
Accumulated deficit	(172,449)	(159,654)
Total stockholders' equity (deficit)	4,352	(1,716)
Total liabilities and stockholders' equity	$ 38,711	$ 21,134

The accompanying notes are an integral part of these condensed consolidated financial statements

NOVAN, INC.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(unaudited)
(in thousands, except share and per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
License and collaboration revenue	$ 649	$ 649	$ 1,298	$ 973
Research and development services revenue	—	68	9	68
Total revenue	649	717	1,307	1,041
Operating expenses:				
Research and development	6,176	6,962	12,511	13,908
General and administrative	2,620	3,361	5,500	7,892
Total operating expenses	8,796	10,323	18,011	21,800
Operating loss	(8,147)	(9,606)	(16,704)	(20,759)
Other income (expense), net:				
Interest income	115	29	159	56
Interest expense	(261)	(262)	(523)	(524)
Change in fair value of warrant liability	711	—	4,269	—
Other income, net	4	—	4	5
Total other income (expense), net	569	(233)	3,909	(463)
Net loss and comprehensive loss	$ (7,578)	$ (9,839)	$ (12,795)	$ (21,222)
Net loss per share, basic and diluted	$ (0.29)	$ (0.62)	$ (0.50)	$ (1.33)
Weighted-average common shares outstanding, basic and diluted	26,039,169	15,975,108	25,535,827	15,971,515

The accompanying notes are an integral part of these condensed consolidated financial statements

NOVAN, INC.
Condensed Consolidated Statements of Cash Flows
(unaudited)
(in thousands)

	Six Months Ended June 30,	
	2018	**2017**
Cash flow from operating activities:		
Net loss	$ (12,795)	$ (21,222)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	809	639
Share-based compensation	1,433	2,135
Loss (gain) on disposal and write-offs of property and equipment	93	(3)
Change in fair value of warrant liability	(4,269)	—
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	308	329
Accounts payable	567	(1,638)
Accrued compensation	(788)	(298)
Accrued outside research and development services	16	(3,915)
Accrued legal and professional fees	(99)	58
Other accrued expenses	(489)	(145)
Deferred revenue	(1,334)	9,843
Other long-term assets	31	(213)
Net cash used in operating activities	(16,517)	(14,430)
Cash flow from investing activities:		
Purchases of property and equipment	(403)	(1,143)
Proceeds from the sale of property and equipment	40	—
Net cash used in investing activities	(363)	(1,143)
Cash flow from financing activities:		
Proceeds from public offering, net of underwriting fees and commissions	35,625	—
Payments related to public offering costs	(322)	—
Proceeds from exercise of stock options	42	34
Payments on capital lease obligation	(5)	(5)
Net cash provided by financing activities	35,340	29
Net increase (decrease) in cash, cash equivalents and restricted cash	18,460	(15,544)
Cash, cash equivalents and restricted cash as of beginning of period	3,063	35,150
Cash, cash equivalents and restricted cash as of end of period	$ 21,523	$ 19,606
Supplemental disclosure of non-cash investing and financing activities:		
Purchases of property and equipment with accounts payable and accrued expenses	$ 322	$ 561
Deferred offering costs reclassified to additional paid-in capital	$ 431	$ —
Reconciliation to condensed consolidated balance sheets:		
Cash and cash equivalents	$ 20,984	$ 19,067
Restricted cash included in other long-term assets	539	539
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	$ 21,523	$ 19,606

The accompanying notes are an integral part of these condensed consolidated financial statements

Note 1: Organization and Significant Accounting Policies

Business Description and Basis of Presentation

Novan, Inc. ("Novan" and together with its subsidiary, the "Company"), is a North Carolina-based clinical-stage biotechnology company focused on leveraging nitric oxide's natural antiviral and immunomodulatory mechanisms of action to treat dermatological and oncovirus-mediated diseases. Novan was incorporated in January 2006 under the state laws of Delaware and its wholly owned subsidiary, Novan Therapeutics, LLC was organized in 2015 under the state laws of North Carolina.

The accompanying condensed consolidated financial statements of the Company have been prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP"). The December 31, 2017 year-end condensed consolidated balance sheet data was derived from audited financial statements but does not include all disclosures required by U.S. GAAP. Additionally, the Company's independent registered public accounting firm report for the December 31, 2017 financial statements included an explanatory paragraph indicating that there is substantial doubt about the Company's ability to continue as a going concern.

Certain prior period amounts have been condensed to conform to current period presentation. As a result, deferred offering costs were condensed with prepaid expenses and other current assets. Additionally, intangible assets and restricted cash were condensed with other assets. These changes had no effect on total current assets or total assets as previously reported as of December 31, 2017. Restricted cash of $539 as of June 30, 2018 and December 31, 2017, consisted of funds maintained in a separate deposit account to secure a letter of credit for the benefit of the lessor of facility space leased by the Company.

Basis of Consolidation

The accompanying condensed consolidated financial statements reflect the operations of the Company and its wholly owned subsidiary. All intercompany accounts and transactions have been eliminated in consolidation.

On December 30, 2015, the Company completed the distribution of 100% of the outstanding member interests of KNOW Bio, LLC ("KNOW Bio"), a former wholly owned subsidiary of the Company, to Novan's stockholders (the "Distribution"), pursuant to which KNOW Bio became an independent privately held company. The Company does not own an equity interest in KNOW Bio, but does have variable interests in KNOW Bio through the following contractual arrangements:

- At the time of the Distribution, the Company entered into exclusive sublicense agreements with KNOW Bio, which were amended in October 2017, as described in Note 3—Collaboration Arrangements. The Company's contingent obligation to pay future milestones or royalties to the University of North Carolina at Chapel Hill ("UNC") and other licensors, including in the event of KNOW Bio non-performance under the sublicense arrangements, creates a variable interest.
- The Company entered into a master development services and clinical supply agreement with KNOW Bio in April 2017 and related statements of work ("SOW") in the second quarter and second half of 2017 (collectively, the "KNOW Bio Services Agreement"). Under the KNOW Bio Services Agreement, the Company provided certain development and manufacturing services to KNOW Bio's respiratory drug development subsidiary until the first quarter of 2018 when KNOW Bio requested that the Company stop performing services. Pursuant to applicable guidance in the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 810-10, *Consolidation,* a service provider arrangement such as the KNOW Bio Services Agreement is deemed a variable interest when a reporting entity has another previously existing variable interest in a legal entity, such as the Company's sublicense arrangements with KNOW Bio, as described above.

Through its portfolio of operating subsidiary companies, KNOW Bio is advancing work in nitric oxide-based therapies in fields where they have exclusive intellectual property rights. The Company determined that KNOW Bio continues to be a variable interest entity based on variable interest entity characteristics, pursuant to FASB ASC 810-10, *Consolidation.* The Company concluded that it is not the primary beneficiary of KNOW Bio and, therefore, does not consolidate KNOW Bio in its condensed consolidated financial statements herein. This conclusion is based on the fact that the Company has no significant power or decision-making authority over KNOW Bio's drug and medical device development activities, which are the activities most significantly impacting KNOW Bio's economic performance. Under the KNOW Bio Services Agreement, the Company agreed to provide certain development and

manufacturing services to KNOW Bio on commercial terms. In exchange for these services, KNOW Bio agreed to pay service fees for actual time and materials incurred by the Company on a cost-plus basis. The terms of the amendments to the exclusive sublicense agreements with KNOW Bio were evaluated by the Company, with the support of a third-party expert, and were determined to be at fair value and arms-length. As a result, the amendments did not create any ability for Novan to influence KNOW Bio's decision-making.

The Company has no exposure to loss as a result of its involvement with KNOW Bio. The Company's sublicense arrangement with KNOW Bio does expose the Company to potential future risk of loss, whereby the Company is obligated to pay future milestones or royalties to UNC or other licensors in the event of KNOW Bio non-performance under the sublicense arrangement; however, if KNOW Bio failed to pay these obligations, KNOW Bio would be in breach of its agreements with the Company and intellectual property rights would revert back to the Company. See Note 2—Research and Development Licenses for detailed information regarding potential future milestone and royalty payments due to UNC and other licensors. The contractual terms of the KNOW Bio Services Agreement, including upfront payment requirements, cost-plus pricing and timely payment terms, mitigate the current or potential future risk of loss to the Company for services performed under the KNOW Bio Services Agreement.

Liquidity and Ability to Continue as a Going Concern

The Company's condensed consolidated financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. The accompanying condensed consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from uncertainty related to the Company's ability to continue as a going concern.

The Company has evaluated principal conditions and events that may raise substantial doubt about its ability to continue as a going concern within one year from the date that these financial statements are issued. The Company identified the following conditions:

- The Company has reported a net loss in all fiscal periods since inception and, as of June 30, 2018, the Company had an accumulated deficit of $172,449.
- The Company's primary use of cash is to fund its operating expenses, which consist principally of research and development expenditures necessary to advance its product candidates. The Company has evaluated its expected, probable future cash flow needs and has determined that it expects to incur substantial losses in the future as it conducts planned operating activities. The Company expects that the amount of cash and cash equivalents on hand as of June 30, 2018 will be sufficient to meet its anticipated cash requirements into the late first quarter or early second quarter of 2019.

The Company has concluded that the prevailing conditions and ongoing liquidity risks faced by the Company raise substantial doubt about its ability to continue as a going concern. To mitigate these prevailing conditions and ongoing liquidity risks, the Company needs and intends to raise additional capital from non-dilutive sources, including partnerships, collaborations, licensing, grants or other strategic relationships, or through equity or debt financings. There can be no assurance that the Company will be able to obtain additional capital on terms acceptable to the Company, on a timely basis or at all. The failure of the Company to obtain sufficient funds on acceptable terms when needed could cause the Company to alter or reduce its planned operating activities, including but not limited to delaying, reducing, terminating or eliminating planned product candidate development activities, to conserve its cash and cash equivalents. Such actions could delay development timelines and have a material adverse effect on the Company's results of operations, financial condition and market valuation. Additionally, there is no assurance that the Company can achieve its development milestones or that its intellectual property rights will not be challenged.

January 2018 Offering

On January 9, 2018, the Company completed a public offering of its common stock and warrants pursuant to the Company's effective shelf registration statement (the "January 2018 Offering"). The Company sold an aggregate of 10,000,000 shares of common stock and warrants to purchase up to 10,000,000 shares of the Company's common stock at a public offering price of $3.80 per share of common stock and accompanying warrant. The warrant exercise price is $4.66 per share and will expire four years from the date of issuance. Net proceeds from the offering were approximately $35,194 after deducting underwriting discounts and commissions and offering expenses of approximately $2,806. The shares issued as part of the January 2018 Offering increased the number of shares outstanding, which impacts the comparability of the Company's reported net loss per share calculations between the 2018 and 2017 periods presented in the accompanying condensed consolidated financial statements.

The Company incurred costs directly related to (i) the shelf registration statement filing totaling $110 and (ii) the January 2018 Offering completed in January 2018 totaling $370, all of which were initially capitalized and included in prepaid expenses and other current assets. A pro-rata portion of the shelf registration offering costs and all of the January 2018 Offering costs were reclassified to additional paid-in capital upon completion of the January 2018 Offering.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Unaudited Interim Condensed Consolidated Financial Statements

The accompanying interim condensed consolidated financial statements and the related footnote disclosures are unaudited. These unaudited condensed consolidated financial statements have been prepared in accordance with U.S. GAAP and applicable rules and regulations of the Securities and Exchange Commission's ("SEC") Rule 10-01 of Regulation S-X for interim financial information. The condensed consolidated financial statements were prepared on the same basis as the audited consolidated financial statements and in the opinion of management, reflect all adjustments of a normal, recurring nature that are necessary for the fair statement of the Company's financial position and its results of operations and cash flows. The results of operations for interim periods are not necessarily indicative of the results expected for the full fiscal year or any future period. These interim financial statements should be read in conjunction with the financial statements and notes for the year ended December 31, 2017 set forth in the Company's Annual Report on Form 10-K filed with the SEC on March 27, 2018.

Leases

The Company leases office space and certain equipment under non-cancelable lease agreements. The leases are reviewed for classification as operating or capital leases. For operating leases, rent is recognized on a straight-line basis over the lease period. For capital leases, the Company records the leased asset with a corresponding liability and amortizes the asset over the lease term. Payments are recorded as reductions to the liability with an appropriate interest charge recorded based on the then-outstanding remaining liability.

The Company considers the nature of the renovations and the Company's involvement during the construction period of newly leased office space to determine if it is considered to be the owner of the construction project during the construction period. If the Company determines that it is the owner of the construction project, it is required to capitalize the fair value of the building as well as the construction costs incurred, including capitalized interest, on its consolidated balance sheet along with a corresponding financing liability ("build-to-suit accounting"). Upon completion of the construction of the facility under a build-to-suit lease, the Company assesses whether the circumstances qualify for sales recognition under the sale-leaseback accounting guidance. If the lease meets the sale-leaseback criteria, the Company will remove the asset and related financial obligation from the balance sheet and evaluate the lease for treatment as a capital or operating lease. If upon completion of construction, the project does not meet the sale-leaseback criteria, the leased property will be treated as an asset financing for financial reporting purposes. The portion of the facility financing obligation representing the principal that will be repaid in the next 12 months will be classified as a current liability in the consolidated balance sheets, with the remaining portion of the obligation classified as a noncurrent liability. See Note 6—Commitments and Contingencies for further discussion of the Company's application of this guidance related to the Company's primary facility lease.

Deferred Offering Costs

Deferred offering costs are included in prepaid expense and other current assets on the accompanying condensed consolidated balance sheets and consist of legal, accounting, filing and other fees directly related to offerings or the Company's shelf registration. These costs are offset against proceeds from each offering as applicable. Offering costs incurred prior to the completion of an offering are initially capitalized as assets, evaluated each period for likelihood of completion and subsequently reclassified to additional paid-in capital upon completion of the offering. Deferred costs associated with the shelf registration will be reclassified to additional paid-in capital on a pro-rata basis in the event the Company completes an offering under the shelf registration, with any remaining deferred offering costs charged to general and administrative expense at the end of the three-year life of the shelf registration.

Revenue Recognition

Effective January 1, 2018, the Company adopted ASC Topic 606, *Revenue from Contracts with Customers*, using the full retrospective transition method. To determine revenue recognition for arrangements that the Company determines are within the scope of Topic 606, the Company performs the following five steps: (i) identify the contracts with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer.

At contract inception, once the contract is determined to be within the scope of Topic 606, the Company assesses the goods or services promised within each contract and determines those that are performance obligations and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

The Company's agreements may contain some or all the following types of provisions or payments:

Licenses of Intellectual Property: If the license of the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from non-refundable, upfront fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are bundled with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the estimated performance period and the appropriate method of measuring progress during the performance period for purposes of recognizing revenue. The Company re-evaluates the estimated performance period and measure of progress each reporting period and, if necessary, adjusts related revenue recognition accordingly.

Milestone Payments: At the inception of each arrangement that includes development milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis, for which the Company recognizes revenue as or when the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such development milestones and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect license and collaboration revenue and earnings in the period of adjustment.

Manufacturing Supply Services: Arrangements that include a promise for future supply of drug substance or drug product for either clinical development or commercial supply at the customer's discretion are generally considered as options. The Company assesses if these options provide a material right to the licensee and if so, they are accounted for as separate performance obligations. If the Company is entitled to additional payments when the customer exercises these options, any additional payments are recorded in license and collaboration revenue when the customer obtains control of the goods, which is upon delivery.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (i) when the

related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, the Company has not recognized any royalty revenue resulting from any of its licensing arrangements.

See Note 4—Revenue Recognition for further information and accounting considerations related to revenue recognition, including revenue recognition pertaining to licensing arrangements.

Research and Development Expenses

Research and development expenses include all direct and indirect development costs incurred for the development of the Company's drug candidates. These expenses include salaries and related costs, including share-based compensation and travel costs, for research and development personnel, allocated facility costs, laboratory and manufacturing materials and supplies, consulting fees, product development, preclinical studies, clinical trial costs, licensing fees and milestone payments under license agreements and other fees and costs related to the development of drug candidates. The cost of tangible and intangible assets that are acquired for use on a particular research and development project, have no alternative future uses, and are not required to be capitalized in accordance with the Company's capitalization policy, are expensed as research and development costs as incurred.

Accrued Outside Research and Development Services

The Company is required to estimate its expenses resulting from its obligations under contracts with clinical research organizations, clinical site agreements, vendors, and consultants in connection with conducting clinical trials and preclinical development. The financial terms of these contracts are subject to negotiations which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided to the Company under such contracts. The Company's objective is to reflect the appropriate development and clinical trial expenses in its financial statements by matching those expenses with the period in which the services and efforts are expended.

For clinical trials, the Company accounts for these expenses according to the progress of the trial as measured by actual hours expended by contract research organization personnel, investigator performance or completion of specific tasks, patient progression, or timing of various aspects of the trial. During the course of a clinical trial, the Company adjusts its rate of clinical trial expense recognition if actual results differ from its estimates. The Company utilizes judgment and experience to estimate its accrued expenses as of each balance sheet date in its financial statements based on facts and circumstances known at that time. Although the Company does not expect its estimates to be materially different from amounts actually incurred, its understanding of status and timing of services performed relative to the actual status and timing of services performed may vary and may result in increases or decreases in research and development expenses in future periods when the actual results become known.

For preclinical development services performed by outside service providers, the Company determines accrual estimates through financial models, considering development progress data received from outside service providers and discussions with applicable Company and service provider personnel.

Fair Value of Financial Instruments

The carrying values of cash equivalents, accounts payable and accrued liabilities as of June 30, 2018 and December 31, 2017 approximated their fair values due to the short-term nature of these items.

For warrants that are issued or modified and there is a deemed possibility that the Company may have to settle them in cash, it records the fair value of the warrants at the initial measurement date, or date of issuance, and each balance sheet date thereafter. Changes in the estimated fair value of the warrants are recognized as a non-cash gain or loss on the condensed consolidated statements of operations and comprehensive loss.

The Company has categorized its financial instruments, based on the priority of the inputs used to value the investments, into a three-level fair value hierarchy. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and lowest priority to unobservable inputs (Level 3). If the inputs used to measure the investments fall within different levels of the hierarchy, the categorization is based on the lowest level input that is significant to the fair value measurement of the investment. Financial instruments recorded in the accompanying condensed consolidated balance sheets are categorized based on the inputs to valuation techniques as follows:

Level 1 – Observable inputs that reflect unadjusted quoted market prices for identical assets or liabilities in active markets.

Level 2 – Observable inputs other than Level 1 that are observable, either directly or indirectly, in the marketplace for identical or similar assets and liabilities.

Level 3 – Unobservable inputs that are supported by little or no market data, where values are derived from techniques in which one or more significant inputs are unobservable.

Share-Based Compensation

The Company applies the fair value method of accounting for share-based compensation, which requires all such compensation to employees, including the grant of employee stock options, to be recognized in the condensed consolidated statements of operations and comprehensive loss based on its fair value at the measurement date (generally the grant date). The expense associated with share-based compensation is recognized over the requisite service period of each award. For awards with only service conditions and graded-vesting features, the Company recognizes compensation cost on a straight-line basis over the requisite service period. For awards with performance conditions, once achievement of the performance condition becomes probable, compensation cost is recognized over the expected period from the date the performance condition becomes probable to the date the performance condition is expected to be achieved. The Company will reassess the probability of vesting at each reporting period for performance awards and adjust compensation cost based on its probability assessment. Share-based awards granted to non-employee directors as compensation for serving on the Company's board of directors are accounted for in the same manner as employee share-based compensation awards.

The fair value of each option grant is estimated using a Black-Scholes option-pricing model on the grant date using expected volatility, risk-free interest rate, expected life of options and fair value per share assumptions. Due to limited historical data, the Company estimates stock price volatility based on the actual volatility of comparable publicly traded companies over the expected life of the option. In evaluating similarity, the Company considered factors such as industry, stage of life cycle, financial leverage, size and risk profile.

The Company does not have sufficient stock option exercise history to estimate the expected term of employee stock options and thus continues to calculate expected life based on the mid-point between the vesting date and the contractual term, which is in accordance with the simplified method. The expected term for share-based compensation granted to non-employees is the contractual life. The risk-free rate is based on the U.S. Treasury yield curve during the expected life of the option.

For option grants occurring subsequent to the Company's IPO in September 2016, the fair value of common stock is based upon the closing stock price as of the grant date. For option grants occurring prior to the Company's IPO, the fair value of common stock was estimated by a third-party valuation specialist and approved by the board of directors as of the grant date. For options granted to non-employee directors on September 20, 2016 in conjunction with the pricing of the IPO, pursuant to the non-employee director compensation policy then in effect, the fair value of common stock was equal to the public offering price of $11.00 per share.

Income Taxes

Deferred tax assets and liabilities are determined based on the temporary differences between the financial statement carrying amounts and the tax bases of assets and liabilities using the enacted tax rates in effect in the years in which the differences are expected to reverse. In estimating future tax consequences, all expected future events are considered, other than enactment of changes in the tax law or rates.

The Company did not record a federal or state income tax benefit for the three and six months ended June 30, 2018 and 2017 due to its conclusion that a full valuation allowance is required against the Company's deferred tax assets.

(dollar values in thousands, except per share data)

The determination of recording or releasing a tax valuation allowance is made, in part, pursuant to an assessment performed by management regarding the likelihood that the Company will generate future taxable income against which benefits of its deferred tax assets may or may not be realized. This assessment requires management to exercise judgment and make estimates with respect to its ability to generate taxable income in future periods.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position.

The Company's policy for recording interest and penalties is to record them as a component of general and administrative expenses. As of June 30, 2018 and December 31, 2017, the Company accrued no interest or penalties related to uncertain tax positions.

Tax years that remain subject to examination by federal and state tax jurisdictions date back to the year ended December 31, 2008. The Company has not been informed by any tax authorities for any jurisdiction that any of its tax years are under examination.

In accordance with Section 382 of the Internal Revenue Code of 1986, as amended, a change in equity ownership of greater than 50% within a three-year period results in an annual limitation on the Company's ability to utilize its net operating loss carryforwards created during the tax periods prior to the change in ownership. The Company has not determined whether ownership changes exceeding this threshold, including the Company's IPO, have occurred. If a change in equity ownership has occurred which exceeds the Section 382 threshold, a portion of the Company's net operating loss carryforwards may be limited.

Net Loss Per Share

Basic net loss per share is calculated by dividing net loss by the weighted average shares outstanding during the period, without consideration of common stock equivalents. Diluted net loss per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period. Diluted net loss per share is the same as basic net loss per share, since the effects of potentially dilutive securities are anti-dilutive for all periods presented.

The following securities, presented on a common stock equivalent basis, have been excluded from the calculation of weighted average common shares outstanding for the three and six months ended June 30, 2018 and 2017 because the effect is anti-dilutive due to the net loss reported in each of those periods. All share amounts presented in the table below represent the total number outstanding as of the end of each period.

	June 30,	
	2018	2017
Warrants to purchase common stock associated with January 2018 public offering (Note 8)	10,000,000	—
Stock options outstanding under the 2008 and 2016 Plans (Note 9)	1,686,142	1,105,251
Inducement options outstanding (Note 9)	100,500	—

Segment and Geographic Information

The Company has determined that it operates in one segment. The Company uses its nitric oxide-based technology to develop product candidates. The Chief Executive Officer, who is the Company's chief operating decision maker, reviews financial information on an aggregate basis for purposes of allocating resources and evaluating financial performance. The Company has only had limited revenue since its inception, but all revenue was derived in the United States. All of the Company's long-lived assets are maintained in the United States.

Although all operations are based in the United States, the Company generated revenue from its licensing partner in Japan of $649 and $1,298 during the three and six months ended June 30, 2018, respectively, and $649 and $973 during the three and six months ended June 30, 2017, respectively. During the three and six months ended June 30, 2018, substantially all revenue was generated from the Company's licensing partner in Japan. During the three and six months ended June 30, 2017, approximately 91% and 93% of total revenue was generated from its licensing partner, respectively.

(dollar values in thousands, except per share data)

Recently Issued Accounting Standards

Accounting Pronouncements Adopted

The Company adopted ASC Topic 606, *Revenue from Contracts with Customers* as of January 1, 2018 and used the full retrospective adoption method, which required the Company to recast each prior reporting period presented. The Company's material revenues are derived from its license agreement with Sato Pharmaceutical Co., Ltd. ("Sato"), which provides for consideration in the form of an upfront payment, milestone payments and royalties. As the Company adopted Topic 606, it elected to utilize two transition practical expedients provided for in Topic 606: the Company (i) has not restated completed contracts that begin and end in the same annual reporting period and (ii) has not disclosed the amount of the transaction price allocated to the remaining performance obligations and an explanation of when the entity expects to recognize that amount as revenue for the reporting periods presented prior to the initial date of application.

Adoption of the revenue recognition standard impacted previously reported results as follows:

Condensed Consolidated Statements of Operations and Comprehensive Loss

	Three Months Ended June 30, 2017			Six Months Ended June 30, 2017		
	As Reported	Adjustments	As Adjusted	As Reported	Adjustments	As Adjusted
License and collaboration revenue	$ 601	$ 48	$ 649	$ 701	$ 272	$ 973
Research and development services revenue	68	—	68	68	—	68
Total revenue	669	48	717	769	272	1,041
Operating expenses:						
Research and development	6,962	—	6,962	13,908	—	13,908
General and administrative	3,361	—	3,361	7,892	—	7,892
Total operating expenses	10,323	—	10,323	21,800	—	21,800
Operating loss	(9,654)	48	(9,606)	(21,031)	272	(20,759)
Other expense, net	(233)	—	(233)	(463)	—	(463)
Net loss and comprehensive loss	$ (9,887)	$ 48	$ (9,839)	$ (21,494)	$ 272	$ (21,222)
Net loss per share, basic and diluted	$ (0.62)	$ —	$ (0.62)	$ (1.35)	$ 0.02	$ (1.33)
Weighted-average common shares outstanding, basic and diluted	15,975,108	—	15,975,108	15,971,515	—	15,971,515

Condensed Consolidated Balance Sheets

	December 31, 2017		
	As Reported	Adjustments	As Adjusted
Deferred revenue, current portion	2,164	467	2,631
Deferred revenue, net of current portion	6,919	(973)	5,946
Accumulated deficit	(160,160)	506	(159,654)

In August 2016, the FASB issued Accounting Standards Update ("ASU") No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments.* The FASB issued ASU 2016-15 to improve U.S. GAAP by providing guidance on the cash flow statement classification of eight specific areas where there is existing diversity in practice. The FASB expects that the guidance in this ASU will reduce the current and potential future diversity in practice in such areas. This ASU was effective for the Company as of January 1, 2018. The adoption of this new accounting guidance did not have a material impact on the Company's condensed consolidated financial statements.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash,* to improve U.S. GAAP by providing guidance on how to classify and present changes in restricted cash or restricted cash equivalents occurring due to transfers between cash, cash equivalents and restricted cash. This ASU was effective for the Company as of January 1, 2018. The Company's condensed consolidated statements of cash flows have been presented in conformance with the requirements in the ASU; however, this presentation did not have a material effect on the Company's condensed consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*, which clarifies the definition of a business to provide additional guidance with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. This ASU is effective for annual periods beginning after December 15, 2017, including interim periods within those periods. This ASU was effective for the Company as of January 1, 2018. The adoption of this new accounting guidance did not have a material effect on the Company's condensed consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting,* to clarify and reduce diversity in practice and cost and complexity of applying guidance for modifications in Topic 718. Specifically, this ASU further defines which changes to terms or conditions of share-based awards require application of modification accounting in Topic 718. This ASU is effective for annual periods beginning after December 15, 2017, including interim periods within those periods, with early adoption permitted. This ASU was effective for the Company as of January 1, 2018. The adoption of this new accounting guidance did not have a material effect on the Company's condensed consolidated financial statements.

Accounting Pronouncements Being Evaluated

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*. This guidance revises the accounting related to leases by requiring lessees to recognize a lease liability and a right-of-use asset for all leases. The new lease guidance also simplifies the accounting for sale and leaseback transactions. In July 2018, the FASB issued ASU No. 2018-10, *Codification Improvements to Topic 842, Leases* and ASU 2018-11, *Leases (Topic 842): Targeted Improvements,* to provide expanded or clarifying guidance associated with the application of certain principles. These ASUs are effective for annual reporting periods beginning after December 15, 2018 and early adoption is permitted. The Company is currently evaluating the impact of the adoption of these ASUs on its condensed consolidated financial statements.

In June 2018, the FASB issued ASU No. 2018-07 *Compensation-Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*. This guidance simplifies the accounting for non-employee share-based payment transactions by expanding the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from non-employees. Under the new standard, most of the guidance on stock compensation payments to non-employees would be aligned with the requirements for share-based payments granted to employees. This standard is effective for annual reporting periods beginning after December 15, 2018, including interim reporting periods within those annual reporting periods, with early adoption permitted. The Company is currently evaluating the impact of adoption of this ASU on its condensed consolidated financial statements.

Note 2: Research and Development Licenses

The Company has entered into various licensing agreements with universities and other research institutions under which the Company receives the rights, and in some cases substantially all of the rights, of the inventors, assignees or co-assignees to produce and market technology protected by certain patents and patent applications. The Company's primary license agreement is with UNC and has been described in further detail within the subsection below. The counterparties to the Company's various other licensing agreements are the University of Akron Research Foundation, Hospital for Special Surgery, Strakan International S.a.r.l., which is a licensee of the University of Aberdeen, KIPAX AB and KNOW Bio. The Company is generally required to make milestone payments based on development milestones and will be required to make royalty payments based on a percentage of future sales of covered products or a percentage of sublicensing revenue. As future royalty payments are directly related to future revenues (either sales or sublicensing), future commitments cannot be determined. No accrual for future payments under these agreements has been recorded, as the Company cannot estimate if, when or in what amount payments may become due.

UNC License Agreement

The Amended, Restated and Consolidated License Agreement dated June 27, 2012, as amended, (the "UNC Agreement") provides the Company with an exclusive license to issued patents and pending applications directed to the Company's library of Nitricil compounds, including patents issued in the U.S., Japan and Australia, with claims intended to cover NVN1000, the new chemical entity ("NCE") for the Company's current product candidates. The UNC Agreement requires the Company to pay UNC up to $425 in regulatory and commercial milestones on a licensed product by licensed product basis and a running royalty percentage in the low single digits on net sales of licensed products. Licensed products include any products being developed by the Company or by its sublicensees, KNOW Bio and Sato, as described further in Note 3—Collaboration Arrangements. Additionally, the Company made a payment to UNC in February 2017 representing the portion of the upfront payment under the Sato Agreement that was estimated to be

directly attributable to the UNC intellectual property rights included in the license to Sato. See Note 3—Collaboration Arrangements for the Company's accounting for this February 2017 payment.

Unless earlier terminated by the Company at its election, or if the Company materially breaches the agreement or becomes bankrupt, the UNC Agreement remains in effect on a country by country and licensed product by licensed product basis until the expiration of the last to expire issued patent covering such licensed product in the applicable country.

Note 3: Collaboration Arrangements

KNOW Bio Technology Agreements

In connection with the Distribution, the Company entered into exclusive license agreements and sublicense agreements with KNOW Bio, as described below. The agreements will continue for so long as there is a valid patent claim under the respective agreement, unless earlier terminated, and upon expiration, will continue as perpetual non-exclusive licenses. KNOW Bio has the right to terminate each such agreement, for any reason upon 90 days advance written notice to the Company.

License of existing and potential future intellectual property to KNOW Bio. The Company granted to KNOW Bio exclusive licenses, with the right to sublicense, to certain U.S. and foreign patents and patent applications controlled by the Company as of December 29, 2015 (the "KNOW Bio License Agreement"). The Company also granted to KNOW Bio a non-exclusive license, with the right to sublicense, to any patents and patent applications that may become controlled by the Company during the three years immediately following the agreement's effective date related to nitric oxide-releasing compositions and methods of manufacturing thereof, including methods of manufacturing Nitricil compounds and other nitric oxide-based therapeutics.

Sublicense of UNC and other third-party intellectual property to KNOW Bio. The Company also granted to KNOW Bio exclusive sublicenses, with the ability to further sublicense, under certain of the U.S. and foreign patents and patent applications exclusively licensed to the Company from UNC and another third party directed towards nitric oxide-releasing compositions, to develop and commercialize products utilizing the licensed technology (the "KNOW Bio Sublicense Agreements"). Under the exclusive sublicense to the UNC patents and applications, KNOW Bio is subject to the terms and conditions under the UNC License Agreement, including milestone and diligence payment obligations. However, the Company is obligated to pay UNC any future milestones or royalties in the event of KNOW Bio non-performance under the sublicense arrangement. In such an event, KNOW Bio would be in breach of its agreements with the Company and intellectual property rights would revert back to the Company. There were no milestone or royalty payments required during the three and six months ended June 30, 2018 and 2017.

Amendments to License and Sublicense Agreements with KNOW Bio

The Company and KNOW Bio entered into certain amendments dated October 13, 2017 (the "KNOW Bio Amendments") to the KNOW Bio License Agreement and KNOW Bio Sublicense Agreements (the "Original KNOW Bio Agreements") described above. Pursuant to the terms of the KNOW Bio Amendments, the Company re-acquired from KNOW Bio exclusive, worldwide rights under certain U.S. and foreign patents and patent applications controlled by the Company as of the execution date of the Original KNOW Bio Agreements, and patents and patent applications which may become controlled by the Company during the three years immediately following the execution date of the Original KNOW Bio Agreements, directed towards nitric oxide-releasing compositions and methods of manufacturing thereof, including methods of manufacturing Nitricil compounds, and other nitric oxide-based therapeutics, to develop and commercialize products for all diagnostic, therapeutic, prophylactic and palliative uses for any disease, condition or disorder caused by certain oncoviruses (the "Oncovirus Field"). KNOW Bio also granted to the Company an exclusive license, with the right to sublicense, under any patents and patent applications which may become controlled by KNOW Bio during the three years immediately following the execution date of the Original KNOW Bio Agreements and directed towards nitric oxide-releasing compositions and methods of manufacturing thereof, including methods of manufacturing Nitricil compounds, and other nitric oxide-based therapeutics, but not towards medical devices, to develop and commercialize products for use in the Oncovirus Field. Additionally, KNOW Bio agreed that KNOW Bio will not commercialize any products in the Oncovirus Field during the first three years following the execution date of the Original KNOW Bio Agreements.

The Company is obligated to make the following fixed and contingent payments in exchange for the rights granted to the Company in the Oncovirus Field:

(i) A non-refundable upfront payment of $250 due upon execution of the KNOW Bio Amendments, which was paid in October 2017 and was classified as research and development expense in the consolidated statement of operations for the year ended December 31, 2017.

(ii) For products that incorporate a certain nitric oxide-releasing composition specified in the KNOW Bio Amendments and (i) are covered by KNOW Bio patents or (ii) materially use or incorporate know-how of KNOW Bio or the Company related to such composition that is created during the three years immediately following the execution date of the Original KNOW Bio Agreements ("Covered Products"), the Company must make the following payments to KNOW Bio:

- A milestone payment upon the first time each Covered Product is approved by the U.S. Food and Drug Administration ("FDA") for marketing in the Oncovirus Field;
- A royalty in the low single digits on net sales of Covered Products in the Oncovirus Field until the later of the expiration of the KNOW Bio patents covering the applicable Covered Product or the expiration of regulatory exclusivity on the applicable Covered Product; and
- In the event the Company sublicenses the rights to a Covered Product to a third party in the Oncovirus Field, the Company must pay KNOW Bio a low double-digit percentage of any clinical development or NDA approval milestones the Company receives from the sublicensee for the Covered Product in the Oncovirus Field.

Nitricil is not the nitric oxide-releasing composition specified in the KNOW Bio Amendments as the subject of the foregoing payments. As such, products based on Nitricil are not subject to the foregoing milestone, royalty and sublicensing payment obligations.

The rights granted to the Company in the Oncovirus Field in the KNOW Bio Amendments continue for so long as there is a valid patent claim under the Original KNOW Bio Agreements, and upon expiration continue on a perpetual non-exclusive basis, and are subject to the termination rights of KNOW Bio and the Company that are set forth in the Original KNOW Bio Agreements. In addition, under the KNOW Bio Amendments, KNOW Bio may terminate the rights granted to the Company in the Oncovirus Field if: (i) the Company does not file a first investigational new drug ("IND") application with the FDA for a product in the Oncovirus Field by October 2020; or (ii) the Company does not file a first new drug application ("NDA") with the FDA by October 2025 for a product in the Oncovirus Field and does not otherwise have any active clinical programs related to the Oncovirus Field at such time.

The Company also obtained a three-year exclusive option to include within the Company's rights described above in the Oncovirus Field, the development and commercialization of products for all diagnostic, therapeutic, prophylactic and palliative uses for any disease, condition or disorder caused by up to four other specified oncoviruses (the "Option Field"). If the Company elects to exercise its option, it will pay an exercise fee for each oncovirus for which the option is exercised, and the additional rights included in the Oncovirus Field as a result of the option exercise will be subject to the same payment obligations for Covered Products, conditions, and termination rights as described above for the Oncovirus Field.

The KNOW Bio Amendments also provide a mechanism whereby either party can cause an NCE covered by the Original KNOW Bio Agreements to become exclusive to such party by filing an IND on the NCE. An NCE that becomes exclusive to a party under this provision may not be commercialized by the other party until the later of expiration of patents covering the NCE or regulatory exclusivity covering the NCE. A party who obtains exclusivity for an NCE must advance development of the NCE pursuant to terms of the KNOW Bio Amendments in order to maintain such exclusivity; otherwise, such exclusivity will expire.

The terms of the KNOW Bio Amendments were negotiated at arms-length and do not provide the Company with an ability to significantly influence KNOW Bio or its operations.

Sato License Agreement

On January 12, 2017, the Company entered into a license agreement, and related amendment, with Sato, relating to SB204, its drug candidate for the treatment of acne vulgaris in Japan (the "Sato Agreement"). Pursuant to the Sato Agreement, the Company granted to Sato an exclusive, royalty-bearing, non-transferable right and license under certain of the Company's intellectual property rights,

with the right to sublicense with the Company's prior written consent, to develop, use and sell products in Japan that incorporate SB204 in certain topical dosage forms for the treatment of acne vulgaris, and to make the finished form of such products. The Company or its designated contract manufacturer will also supply finished product to Sato for use in the development of SB204 in the licensed territory. The rights granted to Sato do not include the right to manufacture the active pharmaceutical ingredient ("API") of SB204; rather, the parties agreed to negotiate a commercial supply agreement pursuant to which the Company or a third-party contract manufacturer would be the exclusive supplier to Sato of the API for the commercial manufacture of licensed products in the licensed territory. Under the terms of the Sato Agreement, the Company also has exclusive rights to certain intellectual property that may be developed by Sato in the future, which the Company could choose to use for its own development and commercialization of SB204 outside of Japan.

In exchange for the licenses granted to Sato under the Sato Agreement, Sato agreed to pay the Company an upfront payment, as well as additional milestone payments upon achievement of various future development, regulatory and commercial milestones. Pursuant to the terms of the Sato Agreement, Sato was required to pay the Company an upfront payment of 1.25 billion Japanese Yen ("JPY"), which the Company received in January 2017 in the amount of $10,813 when converted to U.S. Dollars ("USD"). Sato is also required to pay the Company an aggregate of 2.75 billion JPY upon the achievement of various development and regulatory milestones, including a milestone payment of 0.25 billion JPY (approximately $2,162 USD) upon Sato's initiation of a Phase I trial in Japan. Sato also agreed to pay the Company up to an aggregate of 0.9 billion JPY in milestone payments upon the achievement of various commercial milestones. Sato must also pay the Company a royalty equal to a mid-single digit percentage of net sales of licensed products in the licensed territory, subject to a reduction in the royalty payments in certain circumstances.

The term of the Sato Agreement and the period during which Sato must pay royalties under the Sato Agreement expires, on a licensed product-by-licensed product basis, on the tenth anniversary of the first commercial sale of a licensed product in the licensed field in the licensed territory. The term of the Sato Agreement may be renewed with respect to a licensed product by mutual written agreement of the parties for additional two year periods following expiration of the initial term.

Sato is responsible for funding the development and commercial costs for the program that are specific to Japan. The Company is obligated to perform certain oversight, review and supporting activities for Sato, including: (i) using commercially reasonable efforts to obtain marketing approval of SB204 in the U.S., (ii) sharing all future scientific information the Company may obtain during the term of the Sato Agreement pertaining to SB204, (iii) performing certain additional preclinical studies if such studies are deemed necessary by the Japanese regulatory authority, up to and not to exceed a total cost of $1,000 and (iv) participating in a joint committee that oversees, reviews and approves Sato's development and commercialization activities under the Sato Agreement. Additionally, the Company has granted Sato the option to use the Company's trademarks in connection with the commercialization of licensed products in the licensed territory for no additional consideration, subject to the Company's approval of such use.

The Sato Agreement may be terminated by (i) Sato without cause upon 120 days' advance written notice to the Company, (ii) either party in the event of the other party's uncured material breach upon 60 days' advance written notice, (iii) force majeure, (iv) either party in the event of the other party's dissolution, liquidation, bankruptcy or insolvency and (v) the Company immediately upon written notice if Sato challenges the validity, patentability, or enforceability of any of the Company's patents or patent applications licensed to Sato under the Sato Agreement. In the event of a termination, no portion of the upfront fee received from Sato in January 2017 is refundable.

Note 4: Revenue Recognition

Revenue Recognition—Sato Agreement

The Company assessed the Sato Agreement in accordance with Topic 606 and concluded that the contract counterparty, Sato, is a customer within the scope of Topic 606. The Company identified the following promises under the Sato Agreement: (i) the grant of the intellectual property license to Sato, (ii) the obligation to participate in a joint committee that oversees, reviews, and approves Sato's research and development activities and provides advisory support during Sato's development process, (iii) the obligation to manufacture and supply Sato with all quantities of licensed product required for development activities in Japan, and (iv) the stand-ready obligation to perform any necessary repeat preclinical studies, up to $1,000 in cost. The Company determined that these promises were not individually distinct because Sato can only benefit from these licensed intellectual property rights and services when bundled together; they do not have individual benefit or utility to Sato. As a result, all promises have been combined into a single performance obligation.

The Sato Agreement also provides that the two parties agree to negotiate in good faith the terms of a commercial supply agreement pursuant to which the Company or a third-party manufacturer would be the exclusive supplier to Sato of the API for the commercial manufacture of licensed products in the licensed territory. The Company concluded this obligation to negotiate the terms of a commercial supply agreement does not create (i) a legally enforceable obligation under which the Company may have to perform and supply Sato with API for commercial manufacturing or (ii) a material right because the incremental commercial supply fee consideration agreed upon between the parties in the Sato Agreement is representative of a stand-alone selling price for the supply of API and does not represent a discount. Therefore, this contract provision is not considered to be a promise to deliver goods or services and is not a performance obligation or part of the combined single performance obligation described above.

The Company concluded that the non-refundable upfront payment of 1.25 billion JPY ($10,813 USD) is the only fixed consideration component of the agreement. The only portion of the variable consideration that is currently probable of not resulting in a significant revenue reversal is the milestone related to initiation of a Phase I trial in Japan, which is expected to occur in the second half of 2018 and requires a milestone payment of 0.25 billion JPY (approximately $2,162 USD). These two consideration amounts are allocated to the single performance obligation. No other variable consideration under the Sato Agreement is currently probable of not resulting in a significant revenue reversal and, therefore, is currently fully constrained and excluded from the transaction price.

The Company evaluated the timing of delivery for each of the obligations and concluded that a time-based input method is most appropriate because Sato is accessing and benefitting from the intellectual property and technology (the predominant items of the combined performance obligation) ratably over the duration of Sato's estimated development period in Japan. Although the Company concluded that the intellectual property is functional rather than symbolic, the services provided under the performance obligation are provided over time. Therefore, the allocated transaction price will be recognized using a time-based input method that results in straight-line recognition over the Company's performance period, currently estimated to be approximately five years, starting in February 2017 and completing in the first quarter of 2022. Pursuant to the terms of the Sato Agreement, the Company and Sato are advancing SB204 development for the Japan territory and the parties are working collaboratively to reach agreement with respect to the Japan territory development plan, including a corresponding timeline and estimated duration for the development program in whole. The Company notes that it monitors and reassesses the estimated performance period for purposes of revenue recognition during each reporting period. Therefore, if the duration of the development program timeline is affected by the establishment or subsequent adjustments to a mutually agreed upon SB204 development plan in the Japan territory, the Company will adjust its estimated performance period for revenue recognition purposes accordingly, as needed.

The Company has recorded the transaction price, including the upfront payment received and the unconstrained variable consideration, as deferred revenue that initially totaled $10,813 (comprised of (i) an initial contract liability of $12,975 and net of (ii) a contract asset associated with the Phase I trial initiation milestone payment of $2,162) and is amortizing this deferred revenue over the estimated performance period.

In future periods, the Company will lift the variable consideration constraint from each contingent payment when there is no longer a probable likelihood of significant revenue reversal. When the constraint is lifted from a milestone payment, the Company will recognize the incremental transaction price using the same time-based input method that is being used to recognize the revenue, which results in straight-line recognition over the performance period. If the Company's performance is not yet completed at the time that the constraint is lifted, a cumulative catch-up adjustment will be recognized in the period. If no other performance is required by the Company at the time the constraint is lifted, the Company expects to recognize all revenue associated with such milestone payments at the time that the constraint is lifted.

During the three and six months ended June 30, 2018, the Company recognized $649 and $1,298, respectively, in license and collaboration revenue under this agreement, all of which was previously included in deferred revenue at the beginning of the respective period. During the three and six months ended June 30, 2017, the Company recognized license and collaboration revenue of $649 and $973, respectively. The deferred revenue balance under the Sato Agreement as of June 30, 2018 was $7,243, including $2,595 and $4,648 in current and non-current deferred revenue, respectively. The deferred revenue balance under the Sato Agreement as of December 31, 2017, as adjusted, was $8,541, including $2,595 and $5,946 in current and non-current deferred revenue, respectively. The change in the deferred revenue balances during the six months ended June 30, 2018 was associated with the continued amortization of deferred revenue and recognition of license and collaboration revenue associated with the Company's performance during the period.

Contract costs—Sato Agreement

The Company incurred certain fees and costs in the process of obtaining the Sato Agreement that were payable upon contract execution and, therefore, have been recognized as other assets and amortized as general and administrative expense on a straight-line basis over the same estimated performance period being used to recognize the associated revenue. These fees are associated with the following two arrangements and are described as follows:

- The Company entered into an agreement with a third party to assist the Company in exploring the licensing opportunity which led to the execution of the Sato Agreement. The Company paid a fee of $216 to the third party upon execution of the Sato Agreement and is obligated to pay the third party a low single-digit percentage of any future milestone payments the Company may receive from Sato under the Sato Agreement.
- The intellectual property rights granted to Sato under the Sato Agreement include certain intellectual property rights which the Company has licensed from UNC. Under the Company's license agreement with UNC described in Note 2—Research and Development Licenses, the Company is obligated to pay UNC a running royalty percentage in the low single digits on net sales of licensed products, including net sales that may be generated by Sato. Additionally, the Company made a payment to UNC in February 2017 representing the portion of the Sato upfront payment that was estimated to be directly attributable to the UNC intellectual property rights included in the license to Sato.

Performance Obligations under the Sato Agreement

The amount of existing performance obligations under long-term contracts unsatisfied as of June 30, 2018 was $7,243. The Company expects to recognize approximately 36% of the remaining performance obligations as revenue over the next 12 months, and the balance thereafter. The Company applied the practical expedient and does not disclose information about variable consideration related to sales-based or usage-based royalties promised in exchange for a license of intellectual property. This expedient specifically applied to the sales-based milestone payments that are present in the Sato Agreement (0.9 billion JPY), as well as percentage-based royalty payments in the Sato Agreement that are contingent upon future sales.

No revenue was recognized during the six months ended June 30, 2018 associated with adjustments to the estimated performance period or the measure of progress.

Revenue Recognition—Research and Development Services to KNOW Bio

As described in Note 1—Organization and Significant Accounting Policies, the Company entered the KNOW Bio Services Agreement during 2017 and provided research and development services on a fee-for-service basis. After assessing revenue according to the five-step model of ASC 606, the Company determined that contract research and development services revenue should be recognized in the period in which the services are performed. During the six months ended June 30, 2018, the Company recognized $9 in research and development services revenue for services performed under the KNOW Bio Services Agreement. There was no research and development services revenue recognized during the three months ended June 30, 2018.

(dollar values in thousands, except per share data)

Note 5: Property and Equipment, Net

Property and equipment consisted of the following:

	June 30, 2018	December 31, 2017
Computer equipment	$ 577	$ 529
Furniture and fixtures	303	354
Laboratory equipment	7,148	6,819
Office equipment	400	400
Building related to facility lease obligation	10,557	10,557
Leasehold improvements	1,090	1,000
Property and equipment, gross	20,075	19,659
Less: Accumulated depreciation and amortization	(3,748)	(3,035)
Total property and equipment, net	$ 16,327	$ 16,624

Depreciation and amortization expense was $408 and $809 for the three and six months ended June 30, 2018, respectively, and $340 and $639 for the three and six months ended June 30, 2017, respectively.

Note 6: Commitments and Contingencies

Lease Obligations

Primary Facility Lease

In August 2015, the Company entered into a lease agreement for approximately 51,000 rentable square feet of facility space in Morrisville, North Carolina, commencing in April 2016 (the "Primary Facility Lease"). The initial term of the Primary Facility Lease extends through June 30, 2026. The Company has an option to extend the Primary Facility Lease by five years upon completion of the initial lease term. Current contractual base rent payments are $95 per month, subject to a three percent increase annually over the term of the Primary Facility Lease.

Pursuant to the Company's accounting policy and applicable guidance in ASC 840, *Leases,* the facility is being accounted for as an asset financing, with the building asset and related facility financing obligation remaining on the Company's balance sheet. The building asset is being depreciated over a 25 year period and the facility financing obligation is being amortized so that the net carrying value of the building asset and the facility financing obligation are equivalent at the end of the initial term of the lease agreement. Monthly rental payments will be allocated between principal and interest expense associated with the facility financing obligation, as well as grounds rent expense of $8 per month.

The Company has recorded an asset related to the building and construction costs within property and equipment of $10,557 as of June 30, 2018. The non-current facility lease obligation on the Company's condensed consolidated balance sheet was $7,998 as of June 30, 2018 and December 31, 2017. During the three and six months ended June 30, 2018, the Company recognized interest expense of $261 and $522, respectively, including $42 of accrued interest included in other accrued expenses as of June 30, 2018.

Rent expense associated with the primary facility lease, comprised of monthly grounds rent and common area maintenance costs, was $89 and $131 for the three and six months ended June 30, 2018, respectively, and $71 and $166 for the three and six months ended June 30, 2017, respectively.

In May 2018, the Company entered into a sublease agreement under the Primary Facility Lease whereby the Company is the lessor and is subleasing approximately 6,400 square feet of office space to a third party at its leased headquarters facility in Morrisville, North Carolina. The sublease will expire in July 2021, unless sooner terminated in accordance with the provisions of the sublease. If for any reason, the lease between the Company and its landlord is terminated, the sublease will simultaneously terminate. The annual rent payments due to the Company, beginning in the third quarter of 2018, are approximately $141 per year, subject to a three percent increase annually over the term of the sublease agreement.

Contingencies

From time to time, the Company may have certain contingent liabilities that arise in the ordinary course of business activities. The Company accrues a liability for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. See *Legal Proceedings* below for further discussion of pending legal claims.

The Company has entered into, and expects to continue to enter into, contracts in the normal course of business with various third parties who support its clinical trials, preclinical research studies and other services related to its development activities. The scope of the services under these agreements can generally be modified at any time, and these agreements can generally be terminated by either party after a period of notice and receipt of written notice. There have been no material contract terminations as of June 30, 2018.

See Note 11—Subsequent Events regarding the Performance Plan adopted in August 2018.

Legal Proceedings

The Company is subject to putative stockholder class action lawsuits that were filed in November 2017 in the United States District Court for the Middle District of North Carolina against the Company and certain of its current and former directors and officers, which have been consolidated under the case name *In re Novan, Inc. Securities Litigation*. A lead plaintiff has been designated, and on April 30, 2018, the lead plaintiff filed a consolidated amended complaint. The consolidated amended complaint asserts claims for violation of Sections 11 and 15 of the Securities Act of 1933 and Sections 10(b) and 20(a) of the Exchange Act and SEC Rule 10b-5 promulgated thereunder, in connection with statements related to the Company's Phase 3 clinical trials of SB204. The consolidated amended complaint seeks, among other things, an unspecified amount of compensatory damages and attorneys' fees and costs on behalf of the putative class. On June 14, 2018, the Company filed a motion to dismiss the consolidated amended complaint. The Company believes that the claims lack merit and intends to defend the lawsuits vigorously. However, there can be no assurance that a favorable resolution will be obtained in such lawsuits, and the actual costs may be significant. The Company is unable to estimate the amount of a potential loss or range of potential loss, if any.

Other than as described above, the Company is not currently a party to any material legal proceedings and is not aware of any claims or actions pending or threatened against the Company that the Company believes could have a material adverse effect on the Company's business, operating results, cash flows or financial statements. In the future, the Company might from time to time become involved in litigation relating to claims arising from its ordinary course of business.

Compensatory Obligations

In conjunction with the departures of three former Company officers in 2018 and 2017, the Company entered into separation and general release agreements that included separation benefits consistent with the Company's obligations under their previously existing employment agreements for "separation from service" for "good reason." The Company recognized combined severance expense of $332 during the six months ended June 30, 2018 and $397 and $793 during the three and six months ended June 30, 2017, respectively. The accrued severance obligation in respect of the three former officers was fully paid as of June 30, 2018. The Company also recognized non-cash stock compensation expense of approximately $212 during the six months ended June 30, 2018, and $124 and $374 during the three and six months ended June 30, 2017, respectively, related to the accelerated vesting of the former officers' stock options. There was no severance expense or non-cash stock compensation expense in relation to these departures during the three months ended June 30, 2018.

Note 7: Stockholders' Equity

Capital Structure

Authorized Shares. In conjunction with the completion of the IPO in September 2016, the Company further amended its amended and restated certificate of incorporation and amended and restated its bylaws. The amendment provides for 210,000,000 authorized shares of capital stock, of which 200,000,000 shares have been designated as $0.0001 par value common stock and 10,000,000 shares have been designated as $0.0001 par value preferred stock.

(dollar values in thousands, except per share data)

Preferred Stock

The Company's amended and restated certificate of incorporation provides the Company's board of directors with the authority to issue $0.0001 par value preferred stock from time to time in one or more series by adopting a resolution and filing a certificate of designations. Voting powers, designations, preferences, dividend rights, conversion rights and liquidation preferences shall be stated and expressed in such resolutions. There were 10,000,000 shares designated as preferred stock and no shares outstanding as of June 30, 2018 and December 31, 2017.

Common Stock

Authorized, Issued and Outstanding Common Shares

The Company's common stock has a par value of $0.0001 per share and consists of 200,000,000 authorized shares as of June 30, 2018 and December 31, 2017. There were 26,040,442 and 16,005,408 shares of voting common stock outstanding as of June 30, 2018 and December 31, 2017, respectively. The following table summarizes stockholders' equity activity for the six months ended June 30, 2018:

	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Treasury Stock	Accumulated Deficit	Total Stockholders' (deficit) equity
Balance as of December 31, 2017	16,005,408	$ 2	$ 158,091	$ (155)	$ (159,654)	$ (1,716)
Share-based compensation	—	—	1,433	—	—	1,433
Common stock issued in January 2018 Offering, net of underwriting discounts, commissions and offering costs	10,000,000	1	17,387	—	—	17,388
Exercise of stock options	35,034	—	42	—	—	42
Net loss	—	—	—	—	(12,795)	(12,795)
Balance as of June 30, 2018	26,040,442	$ 3	$ 176,953	$ (155)	$ (172,449)	$ 4,352

The Company had reserved shares of common stock for future issuance as follows:

	June 30, 2018	December 31, 2017
Outstanding stock options (Note 9)	1,786,642	1,399,484
Warrants to purchase common stock issued in January 2018 Offering (Note 8)	10,000,000	—
For possible future issuance under 2016 Stock Plan (Note 9)	651,269	1,023,378
	12,437,911	2,422,862

Note 8: Warrants

The Company evaluates its financial assets and liabilities subject to fair value measurements on a recurring basis to determine the appropriate level in which to classify them for each reporting period, pursuant to the fair value measurements policy described in Note 1—Organization and Significant Accounting Policies. This determination requires significant judgments to be made.

On January 9, 2018, the Company sold an aggregate of 10,000,000 shares of common stock and issued warrants to purchase up to 10,000,000 shares of common stock at a public offering price of $3.80 per share of common stock and accompanying warrant. Pursuant to the warrant agreement and form of warrant dated January 9, 2018 (the "Warrant Agreement"), the warrant exercise price is $4.66 per share and the warrants will expire four years from the date of issuance.

(dollar values in thousands, except per share data)

The Warrant Agreement includes a provision whereby the exercisability of the warrants may be limited if, upon exercise, the warrant holder or any of its affiliates would beneficially own more than 4.99% (or an amount up to 9.99% if the holder so elects) of the Company's common stock. The Warrant Agreement also provides that the aforementioned exercise limitation provision is not applicable to any warrant holder that beneficially owns 10.0% or more of the Company's outstanding common stock immediately following the closing of the January 2018 Offering and the issuance of the accompanying warrants.

If, at any time the warrants are outstanding, any fundamental transaction occurs, as described in the Warrant Agreement and generally including any consolidation or merger whereby another entity acquires more than 50% of the Company's outstanding common stock, or the sale of all or substantially all of its assets, the successor entity must assume in writing all of the obligations to the warrant holders. Additionally, in the event of a fundamental transaction, the Warrant Agreement provides that each warrant holder will have the right to require the Company, or its successor, to repurchase the warrants for an amount of cash equal to the Black-Scholes value of the remaining unexercised portion of the warrants. Further, the Warrant Agreement states that the volatility input used to derive such Black-Scholes value is the greater of the Company's historical volatility or 100%. Due to the provision that the warrant holder has the option to receive a cash settlement, equal to the Black-Scholes fair value of the remaining unexercised portion of the warrant, in the event that there is a fundamental transaction, the Company has classified the warrants as liabilities in accordance with ASC 480, *Distinguishing Liabilities from Equity*.

There were no exercises of warrants during the six months ended June 30, 2018. The following table presents the Company's warrant liability measured at fair value on a recurring basis as of June 30, 2018:

	June 30, 2018			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Liabilities:				
Warrant liability	$ —	$ —	$ 13,537	$ 13,537
Total liabilities at fair value	$ —	$ —	$ 13,537	$ 13,537

The fair value of the common stock warrants is estimated using a valuation model that approximates a Monte Carlo simulation model, which takes into consideration the probability of a fundamental transaction occurring during the contractual term of the warrants. This valuation model, which includes inputs classified as Level 3 in the fair value hierarchy, estimated a fair value of $1.35 and $1.78 per common stock warrant as of June 30, 2018 and January 9, 2018 (the date of issuance), respectively. The inputs to the valuation model that approximates a Monte Carlo simulation model are presented below.

	June 30, 2018	January 9, 2018
Estimated dividend yield	0.00 %	0.00 %
Expected volatility	78.57%-100 %	75.66%-100 %
Risk-free interest rate	2.65 %	2.21 %
Expected term (years)	3.5	4.0
Fair value per share of common stock underlying the warrant	$ 2.94	$ 3.48
Warrant exercise price	$ 4.66	$ 4.66

Due to the Company's limited historical stock price data, the Company estimates stock price volatility based on the actual historical volatility of a group of comparable publicly traded companies observed over a historical period equal to the expected life of the warrant.

The change in fair value of the warrants for the three and six months ended June 30, 2018 of $711 and $4,269, respectively, was included as a component of other income and expense in the Company's condensed consolidated statements of operations and comprehensive loss. The decrease in the warrant liability and the corresponding unrealized gain recognized during the three and six months ended June 30, 2018 is primarily due to the decrease in the market price of the Company's underlying common stock from the date of issuance to June 30, 2018, in addition to fluctuations in the valuation model inputs.

(dollar values in thousands, except per share data)

The following table summarizes the change in the fair value of the warrant liability, which is valued using significant unobservable Level 3 inputs, for the six months ended June 30, 2018:

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)					
	Beginning Balance	Issuance	Revaluations Included In Earnings	Exercises	Expirations	Ending Balance
Warrant liability	$ —	$ 17,806	$ (4,269)	$ —	$ —	$ 13,537

Note 9: Stock Option Plan and Inducement Grants

2016 Stock Plan

During the six months ended June 30, 2018, the Company continued to administer and grant awards under the 2016 Incentive Award Plan (the "2016 Plan"), the Company's only active equity incentive plan. Certain of the Company's outstanding and exercisable stock options remain subject to the terms of the Company's 2008 Stock Plan (the "2008 Plan"), which is the predecessor to the 2016 Plan and became inactive upon adoption of the 2016 Plan effective September 20, 2016.

Inducement Grants

In May 2018, the Company awarded nonstatutory stock options to purchase an aggregate of 100,500 shares of common stock to newly-hired employees, not previously employees or directors of the Company, as inducements material to the individuals' entering into employment with the Company within the meaning of Nasdaq Listing Rule 5635(c)(4) (the "Inducement Grants"). The Inducement Grants have a grant date of May 31, 2018 and an exercise price of $3.15 per share. The Inducement Grants were awarded outside of the Company's 2016 Plan, pursuant to Nasdaq Listing Rule 5635(c)(4), but have terms and conditions generally consistent with the Company's 2016 Plan and vest over three years, with one-third of the award vesting on each annual anniversary of the employee's employment commencement date, subject to the employee's continued service as an employee through the vesting period.

Stock Compensation Expense

During the three and six months ended June 30, 2018, the Company recorded employee share-based compensation expense of $546 and $1,433, respectively. During the three and six months ended June 30, 2017, the Company recorded employee share-based compensation expense of $883 and $2,135, respectively. Total share-based compensation expense included in the condensed consolidated statements of operations and comprehensive loss is as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Research and development	$ 283	$ 430	$ 703	$ 826
General and administrative	263	453	730	1,309
	$ 546	$ 883	$ 1,433	$ 2,135

Stock option activity for the six months ended June 30, 2018 is as follows:

	Shares Subject to Outstanding Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Options outstanding as of December 31, 2017	1,399,484	$ 7.17		
Options granted	578,862	3.09		
Options forfeited	(156,670)	9.55		
Options exercised	(35,034)	1.21		
Options outstanding as of June 30, 2018	1,786,642	$ 5.75	8.70	$ 156

As of June 30, 2018, there were a total of 1,786,642 stock options outstanding, including 100,500 inducement grants awarded in May 2018. In addition, there were 651,269 shares available for future issuance under the 2016 Plan as of June 30, 2018.

Note 10: Related Party Transactions

Members of the Company's board of directors held 1,585,916 shares of the Company's common stock as of June 30, 2018 and December 31, 2017, respectively.

In June 2017, G. Kelly Martin was appointed as the Company's Interim Chief Executive Officer before being named as the Company's Chief Executive Officer in April 2018. Mr. Martin continues to serve as a member of the Company's board of directors and previously served as chief executive officer of Malin Corporation plc, the parent company of Malin Life Sciences Holdings Limited ("Malin"), a greater than 10% stockholder of the Company, until October 1, 2017. Mr. Martin did not receive any additional compensation for his service as the Company's Chief Executive Officer during the six months ended June 30, 2018. Subsequent to June 30, 2018, the Company and Mr. Martin entered into an employment agreement. See Note 11—Subsequent Events for further details.

Two of the Company's directors are also affiliated with Malin, including Sean Murphy, who is an executive officer and director of Malin and is an executive vice president of Malin Corporation plc, and Robert A. Ingram, who was a director of Malin Corporation plc until July 2018.

During the three and six months ended June 30, 2018, the Company incurred costs of $172 and $370, respectively, in relation to a development and manufacturing consulting agreement with Cilatus BioPharma AG, which is majority-owned by Malin Corporation plc, a related party of the Company. These costs are expensed as incurred and are classified as research and development expenses in the accompanying condensed consolidated statements of operations and comprehensive loss. Aggregate estimated fees under the current statements of work are $418, which are expected to be incurred throughout 2018.

Note 11: Subsequent Events

Performance Plan

On August 2, 2018, the Company's board of directors approved and established the Tangible Stockholder Return Plan, which is a performance-based long-term incentive plan (the "Performance Plan"). The Performance Plan was effective immediately upon approval and expires on March 1, 2022. The Performance Plan covers all employees, including the Company's executive officers, consultants and other persons deemed eligible by the Company's compensation committee. The core underlying metric of the Performance Plan is the achievement of two share price goals for the Company's common stock, which if achieved, would represent measurable increases in stockholder value.

The Performance Plan is tiered, with two separate tranches, each of which has a distinct share price target (measured as the average publicly traded share price of the Company's common stock on the Nasdaq stock exchange for a thirty consecutive trading day period) that will, if achieved, trigger a distinct fixed bonus pool. The share price target for the first tranche and related bonus pool are $11.17 per share and $25,000, respectively. The share price target for the second tranche and related bonus pool are $25.45 per share and $50,000, respectively. The compensation committee has discretion to distribute the bonus pool related to each tranche among eligible participants by establishing individual minimum bonus amounts before, as well as by distributing the remainder of the applicable pool after, the achievement of each tranche specific share price target. Otherwise, if the Company does not achieve one or both related share price targets, as defined, no portion of the bonus pools will be paid.

The Performance Plan provides for the distinct fixed bonus pools to be paid in the form of cash. However, the compensation committee has discretion to pay any bonus due under the Performance Plan in the form of cash, shares of the Company's common stock or a combination thereof, provided that the Company's board of directors and stockholders have approved the reservation of shares of the Company's common stock for such payment. The share price targets will be adjusted in the event of any stock splits, cash dividends, stock dividends, combinations, reorganizations, reclassifications, or similar events. In addition, in the event of a change in control, a pro-rata amount will be paid to participants.

Employment Arrangement with G. Kelly Martin

On August 8, 2018, the Company entered into an employment agreement with G. Kelly Martin (the "Employment Agreement"). Pursuant to the Employment Agreement, Mr. Martin serves as the Company's Chief Executive Officer, receives an annual base salary of $480 and is entitled to reimbursement of certain expenses. The Employment Agreement also provides Mr. Martin with eligibility to participate in standard benefit plans. In addition, the Employment Agreement provides for (i) a signing bonus of $560 to be paid in a lump-sum payment following the effective date of the Employment Agreement; (ii) 1,000,000 stock appreciation rights ("SARs") that are intended to be settled in shares, subject to stockholder approval; if such approval is not obtained, the Company will pay Mr. Martin the cash equivalent to the value of the SARs; and (iii) minimum bonus awards under the Performance Plan for each distinct tranche contingent upon achievement of the tranche specific share price targets, along with the possibility of discretionary awards under the Performance Plan if the tranche specific share price targets are achieved.

Item 2: Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our condensed consolidated financial statements and notes thereto included in this Quarterly Report on Form 10-Q and our audited financial statements and notes thereto for the year ended December 31, 2017 included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission, or SEC, on March 27, 2018.

In addition to historical information, this discussion and analysis contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical facts contained in this Quarterly Report on Form 10-Q are forward-looking statements. These statements are often identified by the use of words such as "believe," "contemplate," "continue," "due," "goal," "objective," "plan," "seek," "target," "expect," "believe," "anticipate," "intend," "may," "will," "would," "could," "should," "potential," "predict," "project," "estimate," or "continue" and similar expressions or variations. These statements are based on the beliefs and assumptions of our management based on information currently available to management. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Except as may be required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

These forward-looking statements are subject to numerous risks, including, without limitation, the following:

- *We will need substantial additional funding and as of June 30, 2018, we had an accumulated deficit of $172.4 million. If we are unable to raise capital when needed, we would be forced to delay, reduce, terminate or eliminate our product development programs, or eventual commercialization efforts.*
- *We may rely on strategic relationships for the further development and commercialization of product candidates and if we are unable to enter into such relationships on favorable terms or at all, or if such relationships are unsuccessful, we may be unable to realize the potential economic benefit of those product candidates.*
- *Clinical drug development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results.*
- *Delay or termination of planned clinical trials for our product candidates could result in unplanned expenses or significantly adversely impact our commercial prospects with respect to, and ability to generate revenues from, such product candidates.*
- *SB204's potential development and strategic path forward requires regulatory clarity and, depending on the feedback we receive, we may not be able to achieve the objectives described in the section entitled "Overview—Key Product Candidate Development Updates" below, including our ability to achieve a desirable business structure and funding necessary for the advancement of SB204. Further, the results of any further SB204 development activities may not be sufficient to support an NDA submission for SB204, or regulatory approval of SB204.*
- *The regulatory approval processes of the Food and Drug Administration, or FDA, are lengthy, time-consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.*
- *We specialize solely in developing nitric oxide-based therapeutics to treat dermatological and oncovirus-mediated diseases, and if we do not successfully achieve regulatory approval for any of our product candidates or successfully commercialize them, we may not be able to continue as a business.*
- *The issuance of shares upon exercise of our outstanding warrants and options may cause substantial dilution to our existing stockholders and reduce the trading price of our common stock.*
- *As a result of our operating losses and negative cash flows from operations, the report of our independent registered public accounting firm on our December 31, 2017 financial statements included an explanatory paragraph indicating that there is substantial doubt about our ability to continue as a going concern.*
- *We rely on third parties to conduct some of our preclinical studies and all of our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be unable to obtain regulatory approval for or commercialize any of our product candidates.*

- *We currently manufacture clinical trial materials internally and we intend to qualify and contract with third parties to manufacture clinical trial materials and commercial supplies of any approved product candidates. If we do not have sufficient quantities of clinical trial materials at acceptable quality levels, it could adversely impact our development and potential future commercialization of any of our product candidates or result in our breaching our obligations to others.*
- *Unexpected delays in our ability to manufacture our NVN1000 active pharmaceutical ingredient, or the associated drug product in a deliverable form, in our facility, for support of our development activities could adversely affect our development and commercialization timelines and result in increased costs of our development programs.*
- *We intend to rely on third parties to manufacture raw materials and drug product components utilized in clinical trial materials for us and parties with which we contract. Failure of those third parties to obtain approval of the FDA or comparable regulatory authorities, to provide us with sufficient quantities of raw materials and drug product components or to provide such raw materials or drug product components at acceptable quality levels or prices could adversely impact our development and potential future commercialization of any of our product candidates or result in our breaching our obligations to others.*
- *Our product candidates may pose safety issues, cause adverse events, have side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial profile of an approved label or result in significant negative consequences following marketing approval, if any.*
- *Our product candidates, if approved, will face significant competition, and our failure to effectively compete may prevent us from achieving significant market penetration.*
- *If we are unable to obtain and maintain patent protection for our product candidates, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and product candidates may be impaired.*
- *Changes to our leadership team could prove disruptive to our operations and have adverse consequences for our business and operating results.*
- *We recently broadened the focus of our product development strategy, and there can be no guarantee that these areas of our platform will be successful or the most profitable.*

For a further discussion of risks that could cause or contribute to differences between actual results and those implied by forward-looking statements, see the "Risk Factors" section of the Annual Report on Form 10-K filed with the SEC on March 27, 2018.

Novan® is a registered trademark of our company in the United States. This Quarterly Report on Form 10-Q also includes trademarks, trade names and service marks that are the property of other organizations. Solely for convenience, our trademarks and trade names referred to in this Quarterly Report on Form 10-Q appear without any "™" or "®" symbol, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of any applicable licensor, to these trademarks and trade names.

Overview

We are a clinical development-stage biotechnology company focused on leveraging nitric oxide's naturally occurring antiviral and immunomodulatory mechanisms of action to treat dermatological and oncovirus-mediated diseases. Nitric oxide plays a vital role in the natural immune system response against microbial pathogens and is a critical regulator of inflammation. Our ability to harness nitric oxide and its multiple mechanisms of action has enabled us to create a technology platform with the potential to generate differentiated clinical product candidates.

The two key components of our nitric oxide platform are our proprietary Nitricil technology, which drives the creation of new chemical entities, or NCEs, and our topical formulation science, both of which we use to tune our product candidates for specific indications for specific diseases. Our ability to deploy nitric oxide in a solid form, on demand and in localized formulations allows us the potential to improve patient outcomes in an array of diseases.

We are advancing clinical-stage development programs in the field of dermatology and are conducting early stage preclinical work in the area of oncovirus-mediated diseases. The current portfolio of clinical-stage development programs in the dermatology field includes SB206, SB414, SB204 and SB208. We intend to advance our clinical-stage drug candidates with anti-acne (SB204) and antifungal (SB208) applications through partnerships, collaborations or other strategic relationships or constructs.

Our near-term and ongoing development activities in our antiviral (SB206) and anti-inflammatory (SB414) programs remain the current programmatic focus and commitment in terms of resources and existing capital. Further advancement of the SB206 and SB414 development programs is dependent upon our ability to access additional capital from non-dilutive sources, including partnerships, collaborations, licensing, grants or other strategic relationships, or through equity or debt financings. SB206 has completed Phase 2 development for treatment of external genital warts and a Phase 2 trial is currently ongoing for the treatment of molluscum contagiosum, or molluscum. SB414 has completed a Phase 1b trial for the treatment of psoriasis and recently completed a Phase 1b trial for the treatment of atopic dermatitis. We expect to report data read outs from these SB414 and SB206 clinical trials during the third and fourth quarters of 2018, respectively.

Refer to the section entitled "Liquidity and Capital Resources" for further discussion of our current liquidity and our future funding needs.

Key Product Candidate Development Updates

Below are current updates related to our product candidates and certain forthcoming milestones, goals and objectives.

- ***SB206, a First-in-Class, Topical Antiviral Gel***— At the end-of-Phase 2 meeting for SB206 in the external genital warts indication, we also had a constructive discussion with the FDA regarding expansion of the SB206 program into the treatment of molluscum. We believe that observational learnings from published literature with topical nitric oxide showing clinically meaningful complete clearance rates of baseline molluscum lesions, combined with our in vitro and in vivo antiviral SB206 program knowledge, provide a logical pathway for SB206 development in the molluscum indication. We submitted an investigational new drug application, or IND, to the FDA in December 2017 and initiated a Phase 2 clinical trial utilizing SB206 for the treatment of molluscum during the first quarter of 2018. It is designed as an ascending dose trial with 64 patients per cohort (3:1 randomization between active and placebo arms) to evaluate efficacy, safety and tolerability of SB206 in patients ages 2 and up with molluscum. Top line results are targeted to be released during the fourth quarter of 2018. Pending the clinical results of this Phase 2 trial, we intend to seek regulatory input via an end-of-Phase 2 meeting with the FDA during the first half of 2019.
- ***SB414, a Topical Cream for the Treatment of Inflammatory Skin Diseases***—In late 2017, we initiated clinical exploration in inflammatory skin diseases through the conduct of two Phase 1b clinical trials evaluating SB414 cream for the treatment of psoriasis and atopic dermatitis. The design of these complementary trials was to evaluate the safety, tolerability and pharmacokinetics, or PK, of SB414. The trials were also designed to assess overall and specific target engagement through a reduction of key inflammatory biomarkers, also known as pharmacodynamic, or PD, assessment.

  In the second quarter of 2018, we received preliminary top line results from the Phase 1b trial in patients with psoriasis. We have recently received preliminary "raw" top line data and assessments from the Phase 1b trial in patients with atopic dermatitis, and we expect receipt of the remaining data and assessments in the coming weeks. We are and will be analyzing the atopic dermatitis trial data and assessments both internally and with third party PK and PD experts. Once we have completed these analyses, we anticipate communicating full results, including PK and PD data, from both trials in the third quarter of 2018. We believe these analyses will provide a foundation for future planning regarding inflammatory skin diseases and potential pathways for advancement of the programs.
- ***SB204 for the Treatment of Acne Vulgaris*—**We held a Type C meeting with the FDA in the second quarter of 2018. While we had expected to receive written meeting minutes within the timeframe of the FDA's guidelines, we are still awaiting

receipt of the FDA's written feedback. We believe that having the FDA's meeting minutes is a necessary component for the advancement of SB204 in acne, both from a business and clinical development perspective.

We are continuing our risk/benefit analysis and evaluation surrounding further investment to enable us to fully explore business structures and constructs that could provide a favorable path forward, as well as any one or more third party investors or business partners. Accordingly, we remain highly focused on evaluating various business opportunities and structures that may align with the various scenarios that could develop upon receipt of the FDA's written minutes of our most recent meeting. Any selected business structure may include a blend of capital providers, including but not limited to, corporate and institutional investors, other strategic partners, the third party with which we entered into a non-binding term sheet in the fourth quarter of 2017, and/or a portion of our own capital. Our ability to achieve a desirable business structure continues to depend on the receipt of regulatory clarity, agreement among potential parties that the risk/benefit assessment is appropriate to move forward in development, and the availability of sufficient capital to fund the structure to advance the asset.

During the first half of 2018, we and the third party worked collaboratively to develop potential trial designs and we conducted certain manufacturing and clinical start-up preparatory activities in anticipation of commencement of programmatic next steps. The conduct of further preparatory activities, as well as further collaborative work with this third party, or any other third party, is subject to receipt of the FDA's written feedback from our most recent meeting and our ability to enter into a business structure that enables a favorable path forward for development of SB204.

Corporate Updates

New Long-term Incentive Compensation Framework and Alignment with Stockholder Value Creation

As outlined above, our product, clinical drug and business development activities drive certain developmental timelines and strategic activities which will require successful company-wide execution in order to potentially enable value creation for our stockholders.

To accomplish the goal of value creation through asset progression, we must retain and recruit the appropriate level of employee talent best suited to accomplish these result-focused activities. As such, we have largely replaced our existing equity incentive plan with a new discrete performance-based incentive plan. We believe this new compensation arrangement directly aligns management's execution and accountability for Company objectives with stockholder returns.

- ***Performance Plan***— On August 2, 2018, our board approved and established the Tangible Stockholder Return Plan, which is a performance-based long-term incentive plan, or the Performance Plan. We believe that the Performance Plan will help us attract, retain and incentivize the highly qualified resources that are and will be necessary to execute on our operating strategy. Executive management and the board of directors believe this plan clearly and directly ties long-term employee incentive compensation to specific, significant increases in our underlying common stock price and thus directly aligns employee and stockholder objectives. Unlike our current practice of providing long-term incentives to our employees through annual stock option grants under the 2016 Incentive Award Plan at the then current market price of our common stock, the Performance Plan only provides for employees to receive long-term incentive compensation payments if the established stock price targets ($11.17 per share and $25.45 per share, subject to adjustment as described below) are achieved.

  We intend to use the Performance Plan as the primary means of providing long-term incentive compensation to our employees. Therefore, we intend to reduce our utilization of the 2016 Incentive Award Plan and do not expect to continue our current practice of granting annual equity incentive awards to employees under the 2016 Incentive Award Plan as a form of long-term incentive compensation while the Performance Plan is effective.

  The core underlying metric of the Performance Plan is the achievement of two share price goals for our common stock, which if achieved, would represent measurable increases in stockholder value. The Performance Plan is intended to align the interests of plan participants with those of our stockholders in a manner that is intended to be constructive, direct and transparent, in that if we do not achieve one or both related distinct share price targets, no portion of the potential bonus pools will be distributed.

  The Performance Plan is tiered, with two separate tranches, each of which has a distinct share price target (measured as the average publicly traded share price of the Company's common stock on the Nasdaq stock exchange for a thirty consecutive trading day period) that will trigger a distinct fixed bonus pool. The share price target for the first tranche is $11.17 per share. The share price target for the second tranche is $25.45 per share. The related contingent bonus pools for the first and second tranches are $25.0 million and $50.0 million, respectively. The compensation committee has discretion to distribute the bonus pool related to each tranche among eligible participants by establishing individual minimum bonus amounts before, as well as by distributing the remainder of the applicable pool after, the achievement of each tranche specific share price target. Otherwise, if we do not achieve one or both related share price targets, as defined, no portion of the bonus pools will be paid.

The Performance Plan provides for the bonus pool to generally be paid in the form of cash. However, the compensation committee has discretion to pay any bonus under the Performance Plan in the form of cash, shares of our common stock or a combination thereof, provided that our board and stockholders have approved the reservation of such shares of our common stock for such payment. The share price targets will be adjusted in the event of any stock splits, cash dividends, stock dividends, combinations, reorganizations, reclassifications, or similar events. In addition, in the event of a change in control, a pro-rata amount will be paid to participants.

The Performance Plan was effective immediately upon approval, expires on March 1, 2022, and covers all employees, including our executive officers, consultants and other persons deemed eligible by our compensation committee.

See "Item 5—Other Information" within this Form 10-Q for additional information on the Performance Plan.

- ***Talent and Organization***—We have continued to selectively add key talent to our organization, with a principal focus on pharmaceutical development and clinical development. We intend to continue to selectively expand our resources in a disciplined and thoughtful manner.
    - *Clinical development*—Elizabeth Messersmith, Ph.D. joined us in the role of Senior Vice President of Clinical Operations on May 31, 2018. Dr. Messersmith reports to Paula Brown Stafford, Chief Development Officer, and is responsible for the direction and execution of the Company's broad and diverse clinical drug development programs.
    - *Pharmaceutical development*—During the first half of 2018, we have integrated the chemical and analytical pharmaceutical development, pharmaceutical manufacturing and quality control functions under the operational leadership of Dr. Carri Geer, Vice President of Pharmaceutical Development, to facilitate program integration, improved resource management and overall alignment with corporate strategy. As part of this realignment, we elevated certain key employees by placing them in several newly created positions, including Senior Director of Drug Substance Development, Director of Analytical Services and Group Leader, Analytical Development, and hired an Associate Director of Drug Product Development.
    - *Executive and Corporate* —In April 2018, Kelly Martin was named as our Chief Executive Officer after serving as our Chief Executive Officer in an interim capacity since June 2017. Mr. Martin has also served as a member of our board since 2015. Since June 2017, Mr. Martin has served as our Chief Executive Officer without having an employment agreement in place and without receiving any compensation for such services. Mr. Martin has only received compensation pursuant to our non-employee director compensation policy for his services as a director.

      In August 2018, our board of directors and Mr. Martin established and entered into an employment agreement that includes compensatory terms for his services as our Chief Executive Officer. Like the Performance Plan, our board designed the terms of the employment agreement so that the majority of Mr. Martin's potential compensation is aligned with and subject to the achievement of stockholder value creation through (i) participation in the Performance Plan and (ii) stock appreciation rights to be granted pursuant to our 2016 Incentive Award Plan subject to future stockholder approval. In addition, Mr. Martin will receive an annual base salary and a one-time signing bonus but will not receive an annual target cash bonus, annual equity awards or any other discretionary bonuses other than which may be granted under the Performance Plan.

      See "Item 5—Other Information" within this Form 10-Q for the material terms of, and additional information on, Mr. Martin's employment agreement.

      Other corporate infrastructure talent realignments and additions include those in the following areas:

        - *Business development*— Given the increased focus on potential non-dilutive business development activities around clinical-stage assets in our platform, including various geographic and indication-specific opportunities, Nathan Stasko, President and Chief Scientific Officer, and Timothy O'Sullivan, Vice President of Intellectual Capital, have been tasked with spearheading business development activities.
        - *Financial operations*— We recently created and filled the position of Senior Director of Finance, Corporate Controller to supplement and support the capabilities and responsibilities of our Chief Business Officer and Chief Accounting Officer, who serve as our principal financial and accounting officers, respectively.
        - To further strengthen the organization and heighten the importance of critical corporate functions aligned to our strategic plan, other targeted corporate infrastructure positions were created and staffed by a combination of existing and new employees with appropriate experience and expertise in their respective roles including: (i) Director of Investor Relations, Capital Sourcing and Relationships, (ii) Senior Director, Corporate Alliances and Planning, and (iii) Director of Compensation Strategy, Analysis and Programs.

Financial Overview

Since our inception in 2006, we have devoted substantially all of our efforts to developing our nitric oxide platform technology and resulting product candidates, including conducting preclinical and clinical trials and providing general and administrative support for these operations. We conduct these activities in a single operating segment. We have not generated any revenue from product sales and, to date, have funded our operations through a variety of sources described in further detail within the "Liquidity and Capital Resources" section below. From inception through June 30, 2018, we have raised total equity and debt proceeds of $183.9 million to fund our operations, including $35.2 million in net proceeds from the January 2018 Offering. Other historical forms of funding have included payments received from licensing and supply arrangements, government research contracts and grants and contract development manufacturing services. We have never generated revenue from product sales and have incurred net losses in each year since inception. As of June 30, 2018, we had an accumulated deficit of $172.4 million. We incurred net losses of $7.6 million and $12.8 million during the three and six months ended June 30, 2018, respectively, and $9.8 million and $21.2 million during the three and six months ended June 30, 2017, respectively. We expect to continue to incur substantial losses in the future as we conduct our planned operating activities. We do not expect to generate revenue from product sales unless and until we obtain regulatory approval from the FDA for our clinical-stage product candidates. If we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution.

In addition, we expect that we will continue to incur substantial expenses as we continue clinical trials and preclinical studies for, and research and development of, our product candidates and maintain, expand and protect our intellectual property portfolio. As a result, in addition to the proceeds that we recently received in the January 2018 Offering, we will need substantial additional funding to support our planned and future operating activities. Adequate future funding may not be available to us on acceptable terms, or at all. The current market value of our common stock may negatively impact funding options and the acceptability of funding terms. Additionally, we expect future advancement of our product candidates to occur after the formation of partnering, collaborations, licensing, grants or other strategic relationships or through equity or debt financings. Our failure to enter into such relationships, or our failure to obtain sufficient additional funds on acceptable terms as and when needed could cause us to alter or reduce our planned operating activities, including but not limited to delaying, reducing, terminating or eliminating planned product candidate development activities, to conserve our cash and cash equivalents. Such actions could delay development timelines and have a material adverse effect on our business, results of operations, financial condition and market valuation. As further discussed in our condensed consolidated financial statements and related footnotes included in this Quarterly Report on Form 10-Q, these matters raise substantial doubt about our ability to continue as a going concern.

Components of our Results of Operations

Revenue

License and collaboration revenue consists of the amortization of certain fixed and variable consideration under the Sato Agreement, including a non-refundable $10.8 million upfront payment received in January 2017 and a milestone payment of approximately $2.2 million that we expect to receive in the second half of 2018. This consideration is being recognized on a straight-line basis over the estimated performance period of approximately five years, from February 2017 through the first quarter of 2022. The material terms of the Sato Agreement and related revenue recognition are described within "Note 3—Collaboration Arrangements" and "Note 4—Revenue Recognition" to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Research and development services revenue is associated with the master development services and clinical supply agreement and related statements of work we entered into with KNOW Bio, or collectively the KNOW Bio Services Agreement. Under the KNOW Bio Services Agreement, we are providing certain development and manufacturing services to KNOW Bio in exchange for service fees. Although existing services have contractual budget estimates totaling approximately $0.9 million, the service fees are billed on a cost-plus basis based on actual time and materials incurred by us. We recognized approximately $0.4 million of services revenue during the year ended December 31, 2017. In January 2018, upon request by KNOW Bio, we stopped performing remaining development or manufacturing services contemplated under the Services Agreement and we cannot currently estimate if or when we may perform further services for KNOW Bio under existing or future statements of work. We do not expect the fees we may receive under the KNOW Bio Services Agreement, if any, to significantly increase the period over which our cash and cash equivalents can fund our operating expenses. Our accounting policies pertaining to KNOW Bio are included in "Note 1—Organization and Significant Accounting Policies" to the accompanying condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

We adopted the new revenue recognition standard, ASC Topic 606, which became effective January 1, 2018. See "Note 1—Organization and Significant Accounting Policies" and "Note 4—Revenue Recognition" to our condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for details regarding adoption of the new standard.

Research and Development Expenses

Since our inception, we have focused our resources on our research and development activities, including conducting preclinical studies and clinical trials, manufacturing development efforts and activities related to regulatory filings for our product candidates. Research and development expenses, including those paid to third parties for which there is no alternative use, are expensed as they are incurred. Research and development expenses include:

- external research and development expenses incurred under agreements with contract research organizations, investigative sites and consultants to conduct our clinical trials and preclinical studies;
- costs to acquire, develop and manufacture supplies for clinical trials and preclinical studies, including fees paid to contract manufacturing organizations;
- legal and other professional fees related to compliance with FDA requirements;
- licensing fees and milestone payments incurred under license agreements;
- salaries and related costs, including share-based compensation and travel expenses, for personnel in our research and development functions; and
- facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent, maintenance of facilities, utilities, equipment and other supplies.

From inception through June 30, 2018, we have incurred approximately $126.4 million in research and development expenses to develop, expand or otherwise improve our nitric oxide platform and resulting product candidates, as well as costs incurred to generate research and development services revenue. The table below sets forth our external research and development expenses incurred for current product candidates and unallocated internal research and development expenses for the three and six months ended June 30, 2018 and 2017. All research and development salaries and related personnel costs, as well as certain manufacturing costs, facilities expenses and costs incurred to generate research and development services revenue, are included in unallocated internal research and development expenses.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
	(in thousands)		(in thousands)	
External:				
SB204	$ 311	$ 2,333	$ 911	$ 5,565
SB206	958	24	2,041	(291)
SB208	(21)	183	(6)	389
SB414	826	750	1,611	1,325
Unallocated internal research and development expenses	4,102	3,672	7,954	6,920
Total research and development expenses	$ 6,176	$ 6,962	$ 12,511	$ 13,908

We expect that for the foreseeable future, the substantial majority of our research and development efforts will be focused on our current clinical programs and our future pipeline development. Major clinical and preclinical development activities conducted during the three and six months ended June 30, 2018 are summarized as follows:

- For SB204, we completed a preclinical long-term carcinogenicity study and began preparing for manufacture of clinical trial materials associated with the anticipated clinical trial program described in the preceding section entitled “Overview—Key Product Candidate Development Updates.”
- For SB206, we commenced a Phase 2 clinical trial for the treatment of molluscum contagiosum with top line results targeted in the fourth quarter of 2018. We also conducted certain preclinical activities evaluating SB206’s potential as a therapy for HPV-associated sexually transmitted infections.
- For SB414, we conducted and completed patient treatment in two Phase 1b clinical trials to evaluate SB414 cream for the treatment of psoriasis and atopic dermatitis.

We expect to incur substantial research and development expenses in the future as we develop our clinical product candidates and for other existing or future product candidates. In particular, with our existing capital resources, we expect to continue to incur substantial external development service provider fees and other research and development costs during the remainder of 2018 for ongoing development plan and strategic activities summarized in the “Overview” section above. In addition, the future advancement of certain product candidates is subject to our ability to identify partnerships, collaborations or other strategic relationships currently being explored.

We may decide to revise our plans or the related timing, depending on information we learn through our research and development activities, our ability to access additional capital, our ability to enter into strategic arrangements and our financial priorities.

The successful development of our product candidates is highly uncertain. At this time, we cannot reasonably estimate the nature, timing or costs required to complete the remaining development of our current product candidates or any future product candidates. This is due to the numerous risks and uncertainties associated with the development of product candidates. See the "Risk Factors" section in our Annual Report on Form 10-K filed with the SEC on March 27, 2018, for a discussion of the risks and uncertainties associated with our research and development projects.

General and Administrative Expenses

Our general and administrative expenses consist primarily of salaries and related costs, including share-based compensation and travel expenses for personnel in our executive, finance, commercial, corporate development and other administrative functions. Other general and administrative expenses include allocated depreciation and facility-related costs, legal costs of pursuing patent protection of our intellectual property, insurance coverage and professional services fees for auditing, tax, general legal, litigation defense and other corporate and administrative services.

We expect to continue to incur substantial general and administrative expenses in 2018 in support of our product development operating activities and as necessary to operate in a public company environment. Significant general and administrative expenses associated with operations in a public company environment include legal, accounting, regulatory and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, directors' and officers' liability insurance premiums and investor relations activities. In addition, we expect litigation defense fees to increase during 2018 as we vigorously defend the putative stockholder class action lawsuits as described in the section entitled "Legal Proceedings" of this Quarterly Report on Form 10-Q.

Other Income (Expense), net

Other income (expense), net consists primarily of (i) fair value adjustments to our warrant liability (ii) lease interest expense on our primary facility lease financing obligation, (iii) interest income earned on cash and cash equivalents and (iv) other miscellaneous income and expenses. We expect to continue to incur interest expense on our primary facility lease financing obligation during 2018 and through the remainder of the initial lease term that expires in 2026.

Results of Operations

Comparison of Three Months Ended June 30, 2018 and 2017

The following table sets forth our results of operations for the periods indicated:

	Three Months Ended June 30,			
	2018	2017	$ Change	% Change
	(in thousands, except percentages)			
License and collaboration revenue	$ 649	$ 649	$ —	*
Research and development services revenue	—	68	(68)	(100)%
Total revenue	649	717	(68)	(9)%
Operating expenses:				
Research and development	6,176	6,962	(786)	(11)%
General and administrative	2,620	3,361	(741)	(22)%
Total operating expenses	8,796	10,323	(1,527)	(15)%
Operating loss	(8,147)	(9,606)	1,459	(15)%
Other income (expense), net:				
Interest income	115	29	86	297%
Interest expense	(261)	(262)	1	*
Change in fair value of warrant liability	711	—	711	—
Other income, net	4	—	4	—
Total other income (expense), net	569	(233)	802	(344)%
Net loss	$ (7,578)	$ (9,839)	$ 2,261	(23)%

** Not Meaningful*

Revenue

License and collaboration revenue of $0.6 million for the three months ended June 30, 2018 and 2017, represents amortization of a non-refundable upfront payment and expected milestone payment under the Sato Agreement that was entered into during the first quarter of 2017. Research and development services revenue of less than $0.1 million for the three months ended June 30, 2017, is associated with the completion of certain development services performed under the KNOW Bio Services Agreement.

Research and development expenses

Research and development expenses were $6.2 million for the three months ended June 30, 2018, compared to $7.0 million for the three months ended June 30, 2017. The decrease of $0.8 million, or 11%, was primarily due to the completion of certain clinical trials in our active development programs, including the two parallel Phase 3 pivotal trials and the long-term safety trial in the SB204 program, which resulted in a decrease of $2.0 million and the Phase 2 clinical trial for SB208, which resulted in a decrease of $0.2 million. These program costs were partially offset by an increase of $0.9 million in our SB206 program due to the commencement of a Phase 2 trial in molluscum contagiosum and an increase of $0.1 million in our SB414 development program as we advanced from start-up study activities during the three months ended June 30, 2017 to the conduct of two Phase 1b clinical trials in patients with psoriasis and atopic dermatitis during the three months ended June 30, 2018.

We also had an increase in unallocated internal research and development expenses of $0.4 million due to a $0.7 million increase in facility and manufacturing costs, which was offset by a $0.3 million decrease in research and development personnel costs. The increase of $0.7 million in facility and manufacturing costs is associated with certain activities in 2018 that focused on optimizing the quality and efficiency of our drug substance and drug product manufacturing capabilities. The $0.3 million decrease in personnel costs is due to a decrease in salaries and benefits of $0.2 million due to a reduction in research and development executive personnel since June 30, 2017 and a decrease in non-cash stock compensation expense of $0.1 million. The decrease in non-cash stock compensation expense is due to accelerated vesting of former executive personnel stock options of $0.2 million during the three months ended June 30, 2017 offset by an increase in non-cash stock compensation expense associated with awards granted to our research and development personnel of $0.1 million.

General and administrative expenses

General and administrative expenses were $2.6 million for the three months ended June 30, 2018, compared to $3.4 million for the three months ended June 30, 2017. The decrease of approximately $0.8 million, or 22%, was primarily due to a $0.4 million decrease in general and administrative personnel and related costs, a $0.2 million decrease in professional services and other administrative costs necessary to support our operations as a public company, and a $0.2 million decrease in general corporate costs.

The $0.4 million decrease in general and administrative personnel and related costs is primarily due to (i) fewer general and administrative executives in the second quarter of 2018, as compared to the second quarter of 2017, and (ii) reduced non-cash stock compensation expense. Following changes in executive management of the Company, we have fewer general and administrative executives, and therefore less associated personnel compensation costs. The decrease in non-cash stock compensation expense is due to fewer awards granted to our board of directors and general and administrative executives during the three months ended June 30, 2018.

Other income (expense), net

Other income (expense), net was $0.6 million income for the three months ended June 30, 2018, compared to $0.2 million expense for the three months ended June 30, 2017. The net income increase of approximately $0.8 million was primarily due to the change in fair value of the warrant liability of $0.7 million and an increase in interest income of $0.1 million.

Comparison of Six Months Ended June 30, 2018 and 2017

The following table sets forth our results of operations for the periods indicated:

	Six Months Ended June 30,			
	2018	2017	$ Change	% Change
	(in thousands, except percentages)			
License and collaboration revenue	$ 1,298	$ 973	$ 325	33%
Research and development services revenue	9	68	(59)	(87)%
Total revenue	1,307	1,041	266	26%
Operating expenses:				
Research and development	12,511	13,908	(1,397)	(10)%
General and administrative	5,500	7,892	(2,392)	(30)%
Total operating expenses	18,011	21,800	(3,789)	(17)%
Operating loss	(16,704)	(20,759)	4,055	(20)%
Other income (expense), net:				
Interest income	159	56	103	184%
Interest expense	(523)	(524)	1	*
Change in fair value of warrant liability	4,269	—	4,269	—
Other income, net	4	5	(1)	(20)%
Total other income (expense), net	3,909	(463)	4,372	(944)%
Net loss	$ (12,795)	$ (21,222)	$ 8,427	(40)%

** Not Meaningful*

Revenue

License and collaboration revenue of $1.3 million and $1.0 million for the six months ended June 30, 2018 and 2017, respectively, represents amortization of a non-refundable upfront payment and expected milestone payment under the Sato Agreement that was entered into during the first quarter of 2017. Research and development services revenue of less than $0.1 million for the six months ended June 30, 2018 and 2017, is associated with the completion of certain development services performed under the KNOW Bio Services Agreement.

Research and development expenses

Research and development expenses were $12.5 million for the six months ended June 30, 2018, compared to $13.9 million for the six months ended June 30, 2017. The decrease of $1.4 million, or 10%, was primarily due to the completion of certain clinical trials in our active development programs, including the two parallel Phase 3 pivotal trials and the long-term safety trial in the SB204 program, which resulted in a decrease of $4.6 million and the Phase 2 clinical trial for SB208, which resulted in a decrease of $0.4 million. These program costs were partially offset by an increase of $2.3 million in our SB206 program due to the commencement of a Phase 2 trial in molluscum contagiosum and an increase of $0.3 million in our SB414 development program as we advanced from preclinical and start-up study activities during the first half of 2017 to the conduct of two Phase 1b clinical trials in patients with psoriasis and atopic dermatitis during the first half of 2018.

We also had an increase in unallocated internal research and development expenses of $1.0 million due to a $1.1 million increase in facility and manufacturing costs, which was offset by a $0.1 million decrease in research and development personnel costs. The increase of $1.1 million in facility and manufacturing costs is associated with certain activities in the first half of 2018 that focused on optimizing the quality and efficiency of our drug substance and drug product manufacturing capabilities. The $0.1 million decrease in personnel costs consists of (i) a decrease in non-cash stock compensation expense of $0.1 million, (ii) a decrease of $0.1 million related to decreased executive personnel and related costs to support and administer our active development programs and (iii) an increase of $0.1 million in personnel recruiting costs to attract qualified research and development candidates. The $0.1 million decrease in non-cash stock compensation expense consists of (i) a $0.3 million increase associated with awards granted to our research and development personnel subsequent to the comparative period and (ii) a $0.4 million decrease associated with certain discrete charges during the six months ended June 30, 2017 as stock option vesting was accelerated and other stock options were forfeited upon departure of certain former research and development personnel.

General and administrative expenses

General and administrative expenses were $5.5 million for the six months ended June 30, 2018, compared to $7.9 million for the six months ended June 30, 2017. The decrease of approximately $2.4 million, or 30%, was primarily due to a $1.2 million decrease in general and administrative personnel and related costs, a $0.7 million decrease in professional services and other administrative costs necessary to support our operations as a public company, a $0.2 million decrease in market research and related costs and $0.3 million decrease in general corporate costs.

The $1.2 million decrease in general and administrative personnel and related costs is primarily due to (i) fewer general and administrative executives in the first half of 2018, as compared to the first half of 2017, and (ii) reduced non-cash stock compensation expense. Following changes in executive management of the Company, we have fewer general and administrative executives, and therefore less associated personnel compensation costs. The decrease in non-cash stock compensation expense is due to fewer awards granted to our board of directors and general and administrative executives during the six months ended June 30, 2018.

Other income (expense), net

Other income (expense), net was $3.9 million income for the six months ended June 30, 2018, compared to $0.5 million expense for the six months ended June 30, 2017. The other income increase of approximately $4.4 million was primarily due to the change in fair value of the warrant liability of $4.3 million and an increase in interest income of $0.1 million. See “Note 8—Warrants” to the accompanying unaudited condensed consolidated financial statements for further discussion of the terms and accounting treatment of the warrants.

Liquidity and Capital Resources

Since our inception through June 30, 2018, we have financed our operations primarily with $183.9 million in net proceeds from the issuance and sale of equity securities and convertible debt securities, including $35.2 million in net proceeds from the sale of common stock and accompanying warrants in the January 2018 Offering and $44.6 million in net proceeds from the sale of common stock in our 2016 initial public offering. Other historical forms of funding have included payments received from licensing and supply arrangements and government research contracts and grants. We received an upfront payment of approximately $10.8 million following the execution of the Sato Agreement in the first quarter of 2017 for the exclusive right to develop, use and sell SB204 in certain topical dosage forms in Japan for the treatment of acne vulgaris.

As of June 30, 2018, we had $21.0 million of cash and cash equivalents. We believe that cash on hand as of June 30, 2018 will provide us with adequate liquidity to fund our planned operating needs into the late first quarter or early second quarter of 2019. As described in the section below entitled “Capital Requirements,” we have concluded that the prevailing conditions and ongoing liquidity risks we face raise

substantial doubt about our ability to continue as a going concern. We anticipate that we will need substantial additional funding to continue our operating activities and make further advancements in each of our drug development programs.

Our cash and cash equivalents are held in a variety of interest-bearing instruments, including money market accounts. Cash in excess of immediate requirements is invested with a view toward liquidity and capital preservation, and we seek to minimize the potential effects of concentration and degrees of risk.

January 2018 Offering

On January 9, 2018, we completed a public offering of our common stock and warrants under our effective shelf registration statement on Form S-3. We sold an aggregate of 10,000,000 shares of common stock and warrants to purchase up to 10,000,000 shares of our common stock at a public offering price of $3.80 per share of common stock and accompanying warrant. The warrant exercise price is $4.66 per share and the warrants will expire four years from the date of issuance. Net proceeds from the offering were approximately $35.2 million after deducting underwriting discounts and commissions and offering expenses of approximately $2.8 million.

The warrants sold in the January 2018 Offering are classified as a liability in the accompanying condensed consolidated balance sheets and the warrant liability is recorded at fair value and is re-valued each reporting period, with adjustments to fair value recognized in the condensed consolidated statements of operations and comprehensive loss. As of January 9, 2018, the date the warrants were issued, the warrants were recorded at fair value which approximated $17.8 million. The fair value of the warrants decreased to approximately $13.5 million as of June 30, 2018, which resulted in the recognition of a non-cash unrealized gain of $0.7 million and $4.3 million for the three and six months ended June 30, 2018, respectively. The decrease in the fair value of the warrant liability and the corresponding non-cash gain recognized during the six months ended June 30, 2018 is primarily due to the decrease in the market price of our underlying common stock from the date of issuance to June 30, 2018. We will continue to adjust the fair value of the warrant liability each reporting period during the remaining contractual life of the warrants and the resulting non-cash unrealized gains or losses may have a significant effect on our reported net losses in future periods. The warrants' terms and accounting treatment are described further in "Note 8—Warrants" to the accompanying unaudited condensed consolidated financial statements.

We have not listed the warrants on an exchange but warrant holders have transacted through dealer networks within the over-the-counter (OTC) market on a sporadic basis. The transaction price range observed in the OTC market includes prices that are lower than those estimated using the valuation model that approximates a Monte Carlo simulation model, which estimated a fair value of $1.35 and $1.78 per warrant as of June 30, 2018 and January 9, 2018, respectively. Because of the limited trading volumes currently occurring in the OTC market, the published transaction prices cannot be used to estimate fair value of the warrant liability under U.S. GAAP. However, we believe the pricing disparity observed between our fair value estimate and the limited OTC market transactions indicates that the estimated fair value of the warrant liability value is subject to change in the future and may not necessarily be representative of what a warrant holder can expect to receive or an interested investor can expect to pay in the marketplace.

Facility Lease Financing

Our approximately 51,000 square foot leased facility in Morrisville, North Carolina serves as our corporate headquarters and sole research, development and manufacturing facility. We have accounted for the lease for this facility as a capitalized asset and a corresponding facility financing obligation on our condensed consolidated balance sheets. We began recognizing interest expense associated with this financing obligation in the first quarter of 2017, following completion of the build-out phase in December 2016. See "Note 1—Organization and Significant Accounting Policies" and "Note 6—Commitments and Contingencies" to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q for further discussion of the accounting for this lease.

Cash Flows

The following table sets forth our cash flows for the periods indicated:

	Six Months Ended June 30,	
	2018	2017
	(in thousands)	
Net cash (used in) provided by:		
operating activities	$ (16,517)	$ (14,430)
investing activities	(363)	(1,143)
financing activities	35,340	29
Net increase (decrease) in cash and cash equivalents	$ 18,460	$ (15,544)

Net Cash Used in Operating Activities

During the six months ended June 30, 2018, net cash used in operating activities was $16.5 million and consisted primarily of a net loss of $12.8 million, with adjustments for non-cash amounts related primarily to depreciation expense of $0.8 million, share-based compensation expense of $1.4 million, decrease in fair value of warrant liability of $4.3 million and a $1.8 million net decrease in other operating assets and liabilities. The net decrease in assets and liabilities was primarily due to a $0.8 million decrease in accrued compensation following the payment of annual employee bonuses in the first quarter of 2018, a $0.5 million decrease in other accrued expenses following the payment of various accrued expenses in the first half of 2018, including $0.2 million in travel costs paid to Malin, and a $1.3 million decrease in deferred revenue associated with the continued recognition of licensing revenues from the Sato Agreement during the first half of 2018. These decreases were offset by a favorable change in prepaid expenses and other current assets and accounts payable of $0.9 million.

During the six months ended June 30, 2017, net cash used in operating activities was $14.4 million and consisted primarily of a net loss of $21.2 million, with adjustments for non-cash amounts related primarily to depreciation expense of $0.6 million, share-based compensation expense of $2.1 million and a $4.0 million net increase in assets and liabilities. The net increase in assets and liabilities was primarily due to receipt of an upfront payment of $10.8 million following the execution of the Sato Agreement. This increase was partially offset by decreases in accounts payable and accrued expense balances associated with our outside research and development activities during the period, including a $3.9 million decrease in accrued outside research and development services. The decrease in payables and accruals for these services was primarily related to the completion of two identically designed Phase 3 pivotal trials in our SB204 program and the Phase 2 clinical trial in our SB206 program. In addition, we had approximately $0.7 million in accrued severance costs as of June 30, 2017.

Net Cash Used in Investing Activities

During the six months ended June 30, 2018, net cash used in investing activities was $0.4 million, which related primarily to purchases of laboratory equipment and leasehold improvements at our facility in Morrisville, North Carolina. In addition, we have approximately $0.3 million of purchases of property and equipment in accounts payable and accrued expenses as of June 30, 2018, which we expect to settle through cash disbursements made during the third quarter of 2018.

During the six months ended June 30, 2017, net cash used in investing activities was $1.1 million, which related to purchases of property and equipment associated with laboratory equipment and leasehold improvements at our facility in Morrisville, North Carolina.

Net Cash Provided by Financing Activities

During the six months ended June 30, 2018, net cash provided by financing activities was $35.3 million, consisting primarily of net proceeds from the January 2018 Offering after deducting underwriting discounts and offering expenses.

During the six months ended June 30, 2017, net cash provided by financing activities was $29,000, consisting primarily of proceeds from the exercise of stock options.

Capital Requirements

To date, we have not generated any revenue from product sales. We do not know when, or if, we will generate any revenue from product sales. We do not expect to generate revenue from product sales unless and until we obtain regulatory approval of and commercialize one of our current or future product candidates. We anticipate that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of, and seek regulatory approvals for, our product candidates and begin to commercialize any approved products. We are subject to all of the risks incident in the development of new pharmaceutical products, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business.

Our primary use of cash is to fund our operating expenses, which consist principally of research and development expenditures necessary to advance our clinical-stage product candidates. Based upon our current operating plan, we anticipate our existing cash and cash equivalents are sufficient to fund our operations into the late first quarter or early second quarter of 2019. We are utilizing our existing capital resources to fund the ongoing and near-term development activities, as described in the “Overview” section above. We anticipate that we will need substantial additional funding to continue our operating activities and make further advancements in each of our drug development programs. Further advancement of these development programs is dependent upon our ability to access additional capital through non-dilutive sources, including partnerships, collaborations, licensing, grants or other strategic relationships, or through the issuance of debt or equity securities. We may decide to revise our activities or their timing depending on the availability

of additional funding, partnership opportunities and our financial priorities. We are exploring potential non-dilutive business development activities around clinical-stage assets in our platform, including various geographic and indication-specific opportunities. There can be no assurance that we will be able to obtain additional capital on terms acceptable to us, on a timely basis or at all. A failure to obtain sufficient funds on acceptable terms when needed could cause us to alter or reduce our planned operating activities, including but not limited to delaying, reducing, terminating or eliminating planned product candidate development activities to conserve our cash and cash equivalents. Our anticipated expenditure levels may change if we adjust our current operating plan. As of June 30, 2018, we had an accumulated deficit of $172.4 million and there is substantial doubt about our ability to continue as a going concern if we do not secure adequate additional financing.

We have based our projections of operating capital requirements on assumptions that may prove to be incorrect and we may use all of our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, we are unable to estimate the exact amount of our operating capital requirements. Our future funding requirements will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs, results, and evaluation of results of trials for our clinical-stage product candidates, including trials conducted by us or potential future partners;
- the progress, timing, costs and results of development and preclinical study activities relating to other potential applications of our nitric oxide platform;
- the number and characteristics of product candidates that we pursue;
- our ability to enter into strategic relationships for the continued development of certain product candidates and the success of those arrangements, including our ability to enter into a strategic arrangement, whether through the contemplated arrangement, or another one, to finance and support the SB204 development necessary to achieve the objectives described in the section entitled “Overview—Key Product Candidate Development Updates” above;
- our success in scaling our manufacturing process;
- the outcome, timing and costs of seeking regulatory approvals;
- the occurrence and timing of potential development and regulatory milestones achieved by Sato, our licensee for SB204 in Japan;
- the terms and timing of any future collaborations, licensing, consulting or other arrangements that we may enter into;
- the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights;
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights;
- defending against intellectual property related claims;
- the costs associated with our securities litigation, and the outcome of that litigation;
- the extent to which we in-license or acquire other products and technologies; and
- subject to receipt of marketing approval, revenue received from commercial sales or out licensing of our product candidates.

We also expect to incur capital expenditures as we continue to invest in information technology systems and equipment at our corporate headquarters and manufacturing facility in Morrisville, North Carolina.

Contractual Obligations and Contingent Liabilities

Except for compensatory obligations described in “Note 6—Commitments and Contingencies” to the accompanying condensed consolidated financial statements included in this Quarterly Report on Form 10-Q, there were no material changes during the six months ended June 30, 2018 in our commitments under contractual obligations, as disclosed in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” contained in our Annual Report on Form 10-K filed with the SEC on March 27, 2018.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under SEC rules.

Jumpstart Our Business Startups Act of 2012 (JOBS Act)

In April 2012, the JOBS Act was signed into law. The JOBS Act contains provisions that, among other things, reduce certain reporting requirements for an "emerging growth company." As an "emerging growth company," we are electing not to take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards, and, as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth public companies. Section 107 of the JOBS Act provides that our decision not to take advantage of the extended transition period is irrevocable. We have chosen to rely on the other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, as an "emerging growth company" we are not required to, among other things, (i) provide an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act, (ii) provide all of the compensation disclosure that may be required of non-emerging growth public companies under the Dodd-Frank Act, (iii) comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements (auditor discussion and analysis) and (iv) disclose certain executive compensation-related items, such as the correlation between executive compensation and performance and comparisons of the chief executive officer's compensation to median employee compensation. We may remain an emerging growth company until the last day of 2021. However, if certain events occur prior to such date, including if we become a "large accelerated filer," our annual gross revenue equals or exceeds $1.07 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to such date.

Critical Accounting Policies and Use of Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue and expenses during the reporting periods. These items are monitored and analyzed by us for changes in facts and circumstances, and material changes in these estimates could occur in the future. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Changes in estimates are reflected in reported results for the period in which they become known. Actual results may differ materially from these estimates under different assumptions or conditions. Our significant accounting policies are more fully described in "Note 1—Organization and Significant Accounting Policies" to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q and in "Note 1—Organization and Significant Accounting Policies" to our audited consolidated financial statements contained in our Annual Report on Form 10-K filed with the SEC on March 27, 2018. During the six months ended June 30, 2018, there were no material changes to our critical accounting policies, except as presented below:

Revenue Recognition

Effective January 1, 2018, we adopted FASB ASC Topic 606, *Revenue from Contracts with Customers*, and established our revenue recognition accounting policy pursuant to this new standard. Our policy, and related significant judgments and estimates used to recognize revenue under our policy, is described in "Note 1—Organization and Significant Accounting Policies" and "Note 4—Revenue Recognition" to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Fair Value of Warrant Liability

On January 9, 2018, we issued warrants to purchase 10,000,000 shares of common stock at an exercise price of $4.66, which expire four years from the date of issuance. The warrants include certain provisions that provide the warrant holder with the optional right to settle any unexercised warrants for cash in the event of a fundamental transaction, as defined in the warrant agreement and associated form of warrant. Due to this provision, the warrants are recorded as a liability on our condensed consolidated balance sheet at the estimated fair value on the date of issuance and are re-valued as of each subsequent reporting period with adjustments to the fair value recognized as an unrealized gain or loss within our condensed consolidated statements of operations and comprehensive loss.

The fair value of the warrants is estimated using a valuation model that approximates a Monte Carlo simulation model, which takes into consideration the probability of a fundamental transaction occurring during the contractual term of the warrants. The valuation model includes estimates and assumptions related to expected stock price volatility, fair value of our underlying common stock, expected life of the warrants, risk-free interest rate and dividend yield. Our estimates underlying the assumptions used in the valuation model are subject to risks and uncertainties and may change over time. Such changes could have a significant effect on our reported net losses in future periods. See "Note 8—Warrants" for the significant assumptions used in estimating the fair value of the warrants and see "Note 1—Organization and Significant Accounting Policies" for our accounting policy pertaining to the fair value of financial instruments, both of which are notes to our condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

The probability of a fundamental transaction occurring during the remaining contractual term of the warrants is based on our judgment and takes into consideration the risk-adjusted probability of success within our drug development programs. An increase in the probability of occurrence of a fundamental transaction will increase the fair value of the warrants. Expected stock price volatility is based on the actual historical volatility of a group of comparable publicly traded companies observed over a historical period equal to the expected remaining life of the warrant. The fair value of the underlying common stock is the published closing market price on the Nasdaq Global Market as of each reporting date. The risk-free interest rate is based on the U.S. Treasury yield curve in effect on the date of valuation equal to the remaining expected life of the warrants. An increase in the expected stock price volatility, fair value of the underlying common stock or risk-free interest rate will increase the fair value of the warrants. The dividend yield percentage is zero because we do not currently pay dividends nor do we intend to do so during the expected term of the warrants. The expected life of the warrants is assumed to be equivalent to their remaining contractual term. All other assumptions held constant, the fair value of the warrants will decrease as the remaining contractual term decreases.

Recent Accounting Pronouncements

Recently issued accounting pronouncements that we have adopted or are currently evaluating are described in detail within "Note 1—Organization and Significant Accounting Policies" to the accompanying unaudited condensed consolidated financial statements included in Item 1 of this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risks in the ordinary course of our business. Our primary exposure to market risk is currently limited to our cash and cash equivalents, all of which have maturities of less than three months. The primary objectives of our investment activities are the preservation of principal and maintenance of liquidity for the purpose of funding operations and maximizing total return. The related interest income sensitivity is affected by changes in the general level of short-term U.S. interest rates. We place our cash and cash equivalents with high-credit quality financial institutions. Our investment policy prohibits us from holding corporate bonds, auction rate securities, asset-backed securities, municipal obligations, structured investment vehicles, extendable commercial paper or collateralized debt/loan obligations.

As of June 30, 2018, we had cash and cash equivalents of $21.0 million. We believe that an immediate one percentage point increase or decrease in interest rates would not materially affect the fair value of these cash equivalents. We do not believe that our cash and cash equivalents have significant risk of default or illiquidity and do not expect our operating results or cash flows to be affected significantly by a sudden change in market interest rates. While we believe our cash and cash equivalents do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in fair value. In addition, we maintain significant amounts of cash and cash equivalents at one or more financial institutions that are in excess of federally insured limits.

Following the execution of the Sato Agreement in January 2017, we have become exposed to some degree of foreign exchange risk as a result of entering into transactions denominated in a currency other than U.S. dollars, particularly in Japanese yen. All foreign transactions settle on the applicable spot exchange basis at the time such payments are made, and all monetary balances are translated to U.S. dollars using the period-end exchange rate. A hypothetical 10% change in the exchange rate between the Japanese yen and the U.S. dollar during any of the periods presented would not have had a significant impact on our results of operations, financial position or financial performance.

Item 4. Controls and Procedures

(a) *Evaluation of Disclosure Controls and Procedures*

The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, refers to controls and procedures that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that such information is accumulated and communicated to a company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

In designing and evaluating our disclosure controls and procedures, management recognizes that disclosure controls and procedures, no matter how well conceived and operated, cannot provide absolute assurance that the objectives of the disclosure controls and procedures are met. Additionally, in designing disclosure controls and procedures, our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible disclosure controls and procedures. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives. The design of any system of controls also is

based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a control system, misstatements due to error or fraud may occur and not be detected.

Our management, with the participation of our principal executive and financial officers, has evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2018, the end of the period covered by this Quarterly Report on Form 10-Q. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost benefit relationship of possible controls and procedures. Based upon such evaluation, our principal executive and financial officers have concluded that our disclosure controls and procedures were effective as of such date at the reasonable assurance level.

(b) *Changes in Internal Controls Over Financial Reporting*

There have not been any changes in our internal controls over financial reporting during our fiscal quarter ended June 30, 2018 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings

We are subject to putative stockholder class action lawsuits that were filed in November 2017 in the United States District Court for the Middle District of North Carolina against us and certain of our current and former directors and officers, which have been consolidated under the case name *In re Novan, Inc. Securities Litigation*. A lead plaintiff has been designated, and on April 30, 2018, the lead plaintiff filed a consolidated amended complaint. The consolidated amended complaint asserts claims for violation of Sections 11 and 15 of the Securities Act of 1933 and Sections 10(b) and 20(a) of the Exchange Act and SEC Rule 10b-5 promulgated thereunder, in connection with statements related to our Phase 3 clinical trials of SB204. The consolidated amended complaint seeks, among other things, an unspecified amount of compensatory damages and attorneys' fees and costs on behalf of the putative class. On June 14, 2018, we filed a motion to dismiss the consolidated amended complaint. We believe that the claims lack merit and intend to defend the lawsuits vigorously. However, there can be no assurance that a favorable resolution will be obtained in such lawsuits, and the actual costs may be significant.

Other than as described above, we are not currently a party to any material legal proceedings and are not aware of any claims or actions pending or threatened against us that we believe could have a material adverse effect on our business, operating results, cash flows or financial statements. In the future, we may from time to time become involved in litigation relating to claims arising from our ordinary course of business.

Item 1A. Risk Factors.

There have been no material changes to the risk factors disclosed in the Annual Report on Form 10-K filed with the SEC on March 27, 2018 or the Quarterly Report on Form 10-Q filed with the SEC on May 15, 2018.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Unregistered Sales of Equity Securities

Pursuant to the Nasdaq inducement grant exception, during the quarter ended June 30, 2018, we issued options to purchase an aggregate of 100,500 shares of common stock to certain newly-hired employees at an exercise price of $3.15 per share. The shares underlying these option awards will be registered on a Form S-8 registration statement prior to the first vesting event applicable to each such award.

Issuer Purchases of Equity Securities

None.

Item 3. Defaults Upon Senior Securities.

Not applicable.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

Performance Plan

On August 2, 2018, our board approved and established the Tangible Stockholder Return Plan, which is a performance-based long-term incentive plan, or the Performance Plan. The Performance Plan was effective immediately upon approval and expires on March 1, 2022. The Performance Plan covers all employees, including executive officers, consultants and other persons deemed eligible by our compensation committee.

We believe that the Performance Plan will help us to attract, retain and incentivize the highly qualified resources that are and will be necessary to execute on our operating strategy. Executive management and the board of directors believe this plan clearly and directly ties long-term employee incentive compensation to specific, significant increases in our underlying common stock price and thus directly aligns employee and stockholder objectives. Unlike our current practice of providing long-term incentives to our employees through annual stock option grants under the 2016 Incentive Award Plan at the then current market price of our common stock, the Performance Plan only provides for employees to receive long-term incentive compensation payments if the established stock price targets ($11.17 per share and $25.45 per share, subject to adjustment as described below) are achieved. We intend to use the Performance Plan as the primary means of providing long-term incentive compensation to our employees; therefore, we intend to reduce our utilization of the 2016 Incentive Award Plan and do not expect to continue our current practice of granting annual equity incentive awards to employees under the 2016 Incentive Award Plan as a form of long-term incentive compensation while the Performance Plan is effective.

The core underlying metric of the Performance Plan is the achievement of two share price goals for our common stock, which if achieved, would represent measurable increases in stockholder value. The Performance Plan is intended to align the interests of plan participants with those of our stockholders in a manner that is intended to be constructive, direct and transparent, in that if we do not achieve one or both related distinct share price targets, no portion of the potential bonus pools will be distributed to participants.

The Performance Plan is tiered, with two separate tranches, each of which has a distinct share price target (measured as the average publicly traded share price of the Company's stock on the Nasdaq stock exchange for a thirty consecutive trading day period) that will trigger a distinct fixed bonus pool. The share price targets for the first and second tranches are $11.17 per share and $25.45 per share, respectively. The bonus pools for the first and second tranche are $25.0 million and $50.0 million, respectively. The compensation committee has discretion to distribute the bonus pool related to each tranche among eligible participants by establishing individual minimum bonus amounts before, as well as by distributing the reaminder of the applicable pool after, the achievement of each tranche specific share price target. Otherwise, if we do not achieve one or both related share price targets, as defined, no portion of the bonus pools will be paid.

The Performance Plan provides for each bonus pool to be paid out in cash. However, the compensation committee has discretion to pay any bonus due under the Performance Plan in the form of cash, shares of our common stock or a combination thereof, provided that our stockholders have approved the reservation of shares of our common stock for such payment. The Performance Plan permits the compensation committee to make bonus awards subject to varying payment terms, including awards that vest and are payable immediately upon achieving an applicable share price target as well as awards that pay over an extended period (either with or without ongoing employment requirements). The Performance Plan contemplates that no bonus award payments will be delayed beyond 24 months for named executive officers or more than 12 months for all other participants.

For purposes of determining whether a share price target has been met, the share price targets will be adjusted in the event of any stock splits, cash dividends, stock dividends, combinations, reorganizations, reclassifications or similar events. In the event of a change in control, as defined in the Performance Plan, during the term of the Performance Plan, a performance bonus pool will be generated based on pro-rata progress toward achievement of the applicable share price target through the date of the change in control.

Management intends to continue to assess the facts and circumstances, in addition to its capital structure and liquidity, with regards to our potential obligations related to the Performance Plan and the likelihood of future payment. There can be no assurance that we will achieve either or both share price targets during the term of the Performance Plan, that we will have sufficient cash on hand to pay cash bonuses under the Performance Plan at the time any share price target is achieved or within the time frames described above for payment of the bonuses, or that we will receive stockholder approval to pay bonuses in shares of our common stock in lieu of some or all of such cash payment, if sought. These factors may impact our business, financial condition, ability to retain key employees and ability to obtain additional capital.

Nonetheless, we believe that an ambitious plan tied directly to realization of stockholder value will further motivate our employees to deliver measurable value to our stockholders and have a positive effect on our overall operations.

Employment Arrangement with G. Kelly Martin

Effective August 8, 2018, we entered into an employment agreement with G. Kelly Martin, or the Employment Agreement. Pursuant to the Employment Agreement, Mr. Martin will continue to serve as our Chief Executive Officer during an initial term that expires in February of 2020 and is subject to renewal by agreement of the parties at that time. Additionally, Mr. Martin will continue to serve as an executive director through the date of the 2021 annual stockholder meeting.

The Employment Agreement is designed so that the majority of Mr. Martin's potential compensation is aligned with and subject to the achievement of stockholder value creation by providing for a grant of stock appreciation rights under our 2016 Incentive Award Plan and participation in the Performance Plan.

Mr. Martin will be granted 1.0 million stock appreciation rights, or SARs, having an exercise price equal to the greater of $3.80 per share or the fair market value of our common stock on the grant date. To the extent the share price of our common stock exceeds $3.80 per share on the grant date, upon the SARs vesting, we will provide Mr. Martin with a cash payment equal to such difference in value. The SARs will vest in full on February 1, 2020. The SARs are intended to be equity-settled, subject to stockholder approval, and if such approval is not obtained, the cash-equivalent value of the SARs will be paid to Mr. Martin on February 1, 2020 as provided in the Employment Agreement.

Additionally, the Employment Agreement establishes specified participation rights in the Company's Performance Plan:

- If the Performance Plan's first share price target of $11.17 per share is achieved, Mr. Martin will receive a minimum bonus award under the Performance Plan of $5.25 million. If the Performance Plan's first share price target is not achieved, no bonus award will be disbursed.
- If the Performance Plan's second share price target of $25.45 per share is achieved and Mr. Martin is serving as our Chief Executive Officer, he will receive a minimum bonus award of $10.5 million or, if the Performance Plan's second share price target of $25.45 per share is achieved and he is serving as a director but is no longer serving as our Chief Executive Officer, he will instead receive a minimum bonus award of $8.0 million. If the Performance Plan's second share price target is not achieved or if Mr. Martin is not serving as either CEO or a director at the time the target is achieved, no bonus award will be disbursed.

In addition to the aforementioned contingent minimum bonus awards pursuant to the Performance Plan, Mr. Martin will also be eligible for additional, discretionary bonus awards under the Performance Plan from each of the fixed bonus pools, subject to the achievement of the associated share price target and the discretion of our compensation committee.

The Employment Agreement also provides for an annual base salary of $480,000, a one-time signing bonus of $560,000 to be paid in a lump-sum payment following the effective date of the Employment Agreement, and eligibility to participate in our standard benefit plans. Further, Mr. Martin is entitled to reimbursement of certain expenses, including housing near our headquarters and reasonable travel to his permanent residence.

Mr. Martin will also continue to serve as a director but will no longer receive any compensation in such capacity pursuant to our non-employee director compensation policy, as amended.

In the event of Mr. Martin's "separation from service" by us without "cause" or by Mr. Martin for "good reason," each as defined in the Employment Agreement, then in addition to any accrued amounts and subject to Mr. Martin timely delivering an effective release of claims in our favor, Mr. Martin will be entitled to receive (i) payment of $3.0 million, paid in substantially equal installments over 18 months in accordance with standard payroll practices and provided, that to the extent that any such cash award constitutes nonqualified deferred compensation under Section 409A, the cash payment will be paid subject to any delay required by Section 409A, and (ii) vesting of Mr. Martin's SARs. Upon separation from service by Mr. Martin other than for good reason or due to death or disability, or by us for cause, Mr. Martin will not be entitled to any additional compensation beyond any accrued amounts.

Notwithstanding the foregoing, the Employment Agreement further provides that, in the event that the following occur (i.e. a "double trigger"):

(i) a "change in control," as defined in the Employment Agreement, where holders of our common stock become entitled to receive per-share consideration having a value equal to or greater than $5.00 per share in connection with the change in control, and

(ii) Mr. Martin is separated from service by us without cause or by Mr. Martin for good reason within three months before or 12 months after a change in control,

Mr. Martin will be entitled to receive (a) payment of $3.0 million, to be paid in a lump sum as soon as practicable but in no event more than two and a half months following the later of Mr. Martin's separation from service or consummation of a change in control, and (b) vesting of Mr. Martin's SARs.

Item 6. Exhibits

The following exhibits are being filed herewith or are being incorporated by reference and are numbered in accordance with Item 601 of Regulation S-K:

EXHIBIT NO.	DESCRIPTION	FILED HEREWITH	INCORPORATED BY REFERENCE			
			FORM	FILE NO.	EXHIBIT	FILING DATE
10.1	Non-Employee Director Compensation Policy.	X				
10.2	Employment Agreement, dated April 15, 2018, by and between Novan, Inc. and Jeff N. Hunter.		8-K	001-37880	10.1	April 17, 2018
10.3	Form of Employment Inducement Stock Option Agreement.	X				
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X				
31.2	Certification of Principal Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X				
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X				
32.2	Certification of Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X				
101.INS	XBRL Instance Document.	X				
101.SCH	XBRL Taxonomy Extension Schema Document.	X				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	X				
101.DEF	XBRL Taxonomy Extension Definition Document.	X				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	X				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	X				

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Company has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Novan, Inc.

By: /s/ G. Kelly Martin
G. Kelly Martin
Chief Executive Officer
(Principal Executive Officer)

By: /s/ Jeff N. Hunter
Jeff N. Hunter
Executive Vice President and Chief Business Officer
(Principal Financial Officer)

By: /s/ Andrew J. Novak
Andrew J. Novak
Vice President and Chief Accounting Officer
(Principal Accounting Officer)

Date: August 8, 2018

Exhibit 10.1

NOVAN, INC.

NON-EMPLOYEE DIRECTOR COMPENSATION POLICY

May 19, 2018

Non-employee members of the board of directors (the ***"Board"***) of Novan, Inc. (the ***"Company"***) shall be eligible to receive cash and equity compensation as set forth in this Non-Employee Director Compensation Policy (this ***"Policy"***). The cash and equity compensation described in this Policy shall be paid or be made, as applicable, automatically and without further action of the Board, to each member of the Board who is not an employee of the Company or any parent or subsidiary of the Company (each, a ***"Non-Employee Director"***), who may be eligible to receive such cash or equity compensation, unless such Non-Employee Director declines the receipt of such cash or equity compensation by written notice to the Company. This Policy shall become effective on the date hereof (the ***"Effective Date"***) and shall remain in effect until it is revised or rescinded by further action of the Board. This Policy may be amended, modified or terminated by the Board at any time in its sole discretion. The terms and conditions of this Policy shall supersede any prior cash and/or equity compensation arrangements for service as a member of the Board between the Company and any of its Non-Employee Directors and between any subsidiary of the Company and any of its non-employee directors. No Non-Employee Director shall have any rights hereunder, except with respect to equity awards granted pursuant to the Policy.

1. Cash Compensation.

(a) Annual Retainers. Each Non-Employee Director shall receive an annual retainer of $35,000 for service on the Board.

(b) Additional Annual Retainers. In addition, a Non-Employee Director shall receive the following annual retainers:

(i) Chairman of the Board. A Non-Employee Director serving as Chairman of the Board shall receive an additional annual retainer of $25,000 for such service.

(ii) Lead Independent Director. A Non-Employee Director serving as Lead Independent Director shall receive an additional annual retainer of $20,000 for such service.

(iii) Audit Committee. A Non-Employee Director serving as Chairperson of the Audit Committee shall receive an additional annual retainer of $15,000 for such service. A Non-Employee Director serving as a member of the Audit Committee (other than the Chairperson) shall receive an additional annual retainer of $7,500 for such service.

(iv) Compensation Committee. A Non-Employee Director serving as Chairperson of the Compensation Committee shall receive an additional annual retainer of $15,000 for such service. A Non-Employee Director serving as a member of the Compensation Committee (other than the Chairperson) shall receive an additional annual retainer of $6,250 for such service.

(v) Nominating and Corporate Governance Committee. A Non-Employee Director serving as Chairperson of the Nominating and Corporate Governance Committee shall receive an additional annual retainer of $10,000 for such service. A Non-Employee Director serving as a

member of the Nominating and Corporate Governance Committee (other than the Chairperson) shall receive an additional annual retainer of $5,000 for such service.

(vi) Science and Technology Committee. A Non-Employee Director serving as Chairperson of the Science and Technology Committee shall receive an additional annual retainer of $20,000 for such service. A Non-Employee Director serving as a member of the Science and Technology Committee (other than the Chairperson) shall receive an additional annual retainer of $6,000 for each service.

(c) Payment of Retainers. The annual retainers described in Sections 1(a) and 1(b) shall be earned on a quarterly basis based on a calendar quarter and shall be paid by the Company in arrears not later than the fifteenth day following the end of each calendar quarter. In the event a Non-Employee Director does not serve as a Non-Employee Director, or in the applicable positions described in Section 1(b), for an entire calendar quarter, such Non-Employee Director shall receive a prorated portion of the retainer(s) otherwise payable to such Non-Employee Director for such calendar quarter pursuant to Section 1(b), with such prorated portion determined by multiplying such otherwise payable retainer(s) by a fraction, the numerator of which is the number of days during which the Non-Employee Director serves as a Non-Employee Director or in the applicable positions described in Section 1(b) during the applicable calendar quarter and the denominator of which is the number of days in the applicable calendar quarter.

2 . Equity Compensation. Non-Employee Directors shall be granted the equity awards described below. The awards described below shall be granted under and shall be subject to the terms and provisions of the Company's 2016 Incentive Award Plan or any other applicable Company equity incentive plan then-maintained by the Company (the ***"Equity Plan"***) and shall be granted subject to the execution and delivery of award agreements, including attached exhibits, in substantially the forms previously approved by the Board. All applicable terms of the Equity Plan apply to this Policy as if fully set forth herein, and all equity grants hereunder are subject in all respects to the terms of the Equity Plan.

(a) Annual Awards. A Non-Employee Director who (i) serves on the Board as of the date of any annual meeting of the Company's stockholders (an ***"Annual Meeting"***) after the Effective Date and (ii) will continue to serve as a Non-Employee Director immediately following such Annual Meeting shall be automatically granted, on the date of such Annual Meeting, an option to purchase the number of shares of the Company's common stock (at a per-share exercise price equal to the closing price per share of the Company's common stock on the date of such annual meeting (or on the last preceding trading day if the date of the annual meeting is not a trading day)) equal to the lesser of 20,000 shares or the number of shares that have an aggregate fair value on the date of grant of $100,000 (as determined in accordance with ASC 718) (with the number of shares of Common Stock underlying each such award subject to adjustment as provided in the Equity Plan). The awards described in this Section 2(a) shall be referred to as the ***"Annual Awards."*** Notwithstanding the foregoing, the Board in its sole discretion may determine that the Annual Awards for any year be granted in the form of restricted stock units with equivalent value on the date of grant (with the number of shares of Common Stock underlying each such award not to exceed 20,000 shares and subject to adjustment as provided in the Equity Plan). For the avoidance of doubt, a Non-Employee Director elected for the first time to the Board at an Annual Meeting shall only receive an Annual Award in connection with such election, and shall not receive any Initial Award (as defined below) on the date of such Annual Meeting as well.

(b) Initial Awards. Except as otherwise determined by the Board, each Non-Employee Director who is initially elected or appointed to the Board on any date other than the date of an Annual Meeting shall be automatically granted, on the date of such Non-Employee Director's initial election or appointment (such Non-Employee Director's ***"Start Date"***), an option to purchase shares of the Company's common stock (at a per-share exercise price equal to the closing price per share of the Company's common stock on the date of such election or appointment (or on the last preceding trading day if such date is not a trading day)) equal to the lesser of 20,000 shares or the number of shares that have an aggregate fair value on such Non-Employee Director's Start Date equal to the product of (i) $100,000 (as determined in accordance with ASC 718), and (ii) a fraction, the numerator of which is (x) 365 minus (y) the number of days in the period beginning on the date of the Annual Meeting immediately preceding such Non-Employee Director's Start Date and ending on such Non-Employee Director's Start Date and the denominator of which is 365 (with the number of shares of Common Stock underlying each such award subject to adjustment as provided in the Equity Plan). The awards described in this Section 2(b) shall be referred to as ***"Initial Awards."*** Notwithstanding the foregoing, the Board in its sole discretion may determine that the Initial Award for any Non-Employee Director be granted in the form of restricted stock units with equivalent value on the date of grant (with the number of shares of Common Stock underlying each such award not to exceed 20,000 shares and subject to adjustment as provided in the Equity Plan). For the avoidance of doubt, no Non-Employee Director shall be granted more than one Initial Award.

(c) Termination of Service of Employee Directors. Members of the Board who are employees of the Company or any parent or subsidiary of the Company who subsequently terminate their service with the Company and any parent or subsidiary of the Company and remain on the Board will not receive an Initial Award pursuant to Section 2(b) above, but to the extent that they are otherwise eligible, will be eligible to receive, after termination from service with the Company and any parent or subsidiary of the Company, Annual Awards as described in Section 2(a) above.

(d) Vesting of Awards Granted to Non-Employee Directors . Each Annual Award and Initial Award shall vest and become exercisable in four equal quarterly installments, such that each such award shall be fully vested and exercisable on the first anniversary of the date of grant, subject to the Non-Employee Director's continued service on the Board as a Non-Employee Director through each applicable vesting date. No portion of an Annual Award or Initial Award that is unvested or unexercisable at the time of a Non-Employee Director's termination of service on the Board as a Non-Employee Director shall become vested and exercisable thereafter. All of a Non-Employee Director's Annual Awards and Initial Awards shall vest in full immediately prior to the occurrence of a Change in Control (as defined in the Equity Plan), to the extent outstanding at such time.

* * * * *

Exhibit 10.3

NOVAN, INC.

STOCK OPTION GRANT NOTICE AND
STOCK OPTION AGREEMENT
(Awarding Non-Qualified Stock Option)

The Compensation Committee (the "Committee") of the Board of Directors (the "Board") of Novan, Inc., a Delaware corporation (the "Company"), pursuant to Nasdaq Listing Rule 5635(c)(4) and not under any equity incentive plan of the Company, hereby grants to the holder listed below ("Holder") this Non-Qualified Stock Option to purchase the number of shares of the Company's common stock, par value $0.0001 per share ("Common Stock") set forth below (the "Option"). The Option is subject to the terms and conditions set forth in this Stock Option Grant Notice (this "Grant Notice") and the Stock Option Agreement attached hereto as Exhibit A (the "Agreement"), which is incorporated herein by reference, and the grant of the Option is conditioned upon Holder's compliance with any Confidentiality and Assignment of Inventions Agreement and/or Noncompetition Agreement existing or entered into in connection herewith (the "Restrictive Covenants Agreement[s]").

Holder:	[[FIRSTNAME]] [[MIDDLENAME]] [[LASTNAME]]
Grant Date:	[[GRANTDATE]]
Grant Number:	[[GRANTNUMBER]]
Exercise Price Per Share:	[[GRANTPRICE]]
Total Option Shares Granted:	[[SHARESGRANTED]]
Vesting Commencement Date:	[[VESTINGSTARTDATE]]
Expiration Date:	[[GRANTEXPIRATIONDATE]]
Type of Option:	Non-Qualified Stock Option
Vesting Schedule:	[[VESTINGTEMPLATEDESC]]

By Holder's electronic signature, Holder agrees to be bound by the terms and conditions of the Agreement, the Grant Notice and the Restrictive Covenants Agreement[s]. Holder has reviewed the Agreement, the Grant Notice, and the Restrictive Covenants Agreement[s] in their entirety, has had an opportunity to obtain the advice of counsel prior to executing the Grant Notice and fully understands all provisions of the Grant Notice, the Agreement, and the Restrictive Covenants Agreement[s]. Holder hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Committee upon any questions arising under the Grant Notice, the Agreement or the Restrictive Covenants Agreement[s].

EXHIBIT A
TO STOCK OPTION GRANT NOTICE

STOCK OPTION AGREEMENT

Pursuant to the Grant Notice to which this Agreement is attached, the Company has granted to Holder an Option to purchase the number of shares of Common Stock set forth in the Grant Notice.

ARTICLE I.
GENERAL

1.1 Defined Terms. Capitalized terms not specifically defined herein shall have the meanings specified in the Grant Notice. For purposes of this Agreement,

(a) "*Affiliates*" shall mean (A) any person or entity which owns or controls at least fifty percent (50%) of the equity or voting stock of the Company, or (B) any person or entity fifty percent (50%) of whose equity or voting stock is owned or controlled by the Company or (C) any person or entity of which at least fifty percent (50%) of the equity or voting stock is owned or controlled by the same person or entity owning or controlling at least fifty percent (50%) of the Company.

(b) "*Applicable Accounting Standards*" shall mean Generally Accepted Accounting Principles in the United States, International Financial Reporting Standards or such other accounting principles or standards as may apply to the Company's financial statements under United States federal securities laws from time to time.

(c) "*Applicable Law*" shall mean any applicable law, including without limitation: (A) provisions of the Code, the Securities Act of 1933, as amended, the Exchange Act of 1934, as amended, and any rules or regulations thereunder; (B) corporate, securities, tax or other laws, statutes, rules, requirements or regulations, whether federal, state, local or foreign; and (C) rules of any securities exchange or automated quotation system on which the Shares are listed, quoted or traded.

(d) "*Cause*" shall mean (A) willful misconduct, gross negligence or an act of dishonesty of Holder with regard to the Company or any of its Affiliates, which in either case, results in or could reasonably be expected to result in material harm to the Company or such Affiliate; (B) the willful and continued failure of Holder to attempt to perform his or her duties with the Company or any of its Affiliates (other than any such failure resulting from Disability), which failure is not remedied within 30 days after receiving written notice thereof; (C) the conviction of Holder of (or the plea by Holder of guilty or *nolo contendere* to) any felony involving moral turpitude (other than traffic related offenses or as a result of vicarious liability); or (D) a material breach by Holder of any material provision of any written service agreement, which breach is not remedied within 10 days after receiving written notice thereof. Notwithstanding the foregoing, if Holder is a party to a written service agreement with the Company (or any of its Subsidiaries) in which the term "cause" is defined, then "Cause" shall be as such term is defined in the applicable written agreement.

(e) "*Change in Control*" shall mean and includes each of the following:

(A) A transaction or series of transactions (other than an offering of Common Stock to the general public through a registration statement filed with the Securities and Exchange Commission) whereby any "person" or related "group" of "persons" (as such terms are used in Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934, as amended) directly or indirectly acquires beneficial ownership (within the meaning of Rules 13d-3 and 13d-5 under the Securities Exchange Act of

1934, as amended) of securities of the Company possessing more than 50% of the total combined voting power of the Company's securities outstanding immediately after such acquisition; provided, however, that the following acquisitions shall not constitute a Change in Control: (i) any acquisition by the Company or any of its Subsidiaries; (ii) any acquisition by an employee benefit plan maintained by the Company or any of its Subsidiaries, (iii) any acquisition which complies with Sections 1.1(e)(D)(i), 1.1(e)(D)(ii) and 1.1(e)(D)(iii); or (iv) in respect of this Option, any acquisition by the Holder or any group of persons including the Holder (or any entity controlled by the Holder or any group of persons including the Holder); or

(B) The Incumbent Directors cease for any reason to constitute a majority of the Board;

(C) The consummation by the Company (whether directly involving the Company or indirectly involving the Company through one or more intermediaries) of (x) a merger, consolidation, reorganization, or business combination, (y) a sale or other disposition of all or substantially all of the Company's assets in any single transaction or series of related transactions or (z) the acquisition of assets or stock of another entity, in each case other than a transaction:

(i) which results in the Company's voting securities outstanding immediately before the transaction continuing to represent (either by remaining outstanding or by being converted into voting securities of the Company or the person that, as a result of the transaction, controls, directly or indirectly, the Company or owns, directly or indirectly, all or substantially all of the Company's assets or otherwise succeeds to the business of the Company (the Company or such person, the "Successor Entity")) directly or indirectly, at least a majority of the combined voting power of the Successor Entity's outstanding voting securities immediately after the transaction, and

(ii) after which no person or group beneficially owns voting securities representing 50% or more of the combined voting power of the Successor Entity; provided, however, that no person or group shall be treated for purposes of this Section 1.1(e)(C)(ii) as beneficially owning 50% or more of the combined voting power of the Successor Entity solely as a result of the voting power held in the Company prior to the consummation of the transaction; and

(iii) after which at least a majority of the members of the board of directors (or the analogous governing body) of the Successor Entity were Board members at the time of the Board's approval of the execution of the initial agreement providing for such transaction; or

(D) The date of the completion of a liquidation or dissolution of the Company.

Notwithstanding the foregoing, if a Change in Control constitutes a payment event with respect to the Option (or any portion of the Option) that provides for the deferral of compensation that is subject to Section 409A, to the extent required to avoid the imposition of additional taxes under Section 409A, the transaction or event described in subsection (A), (B), (C) or (D) with respect to the Option (or portion thereof) shall only constitute a Change in Control for purposes of the payment timing of the Option if such transaction also constitutes a "change in control event," as defined in Treasury Regulation Section 1.409A-3(i)(5).

The Committee shall have full and final authority, which shall be exercised in its sole discretion, to determine conclusively whether a Change in Control has occurred pursuant to the above definition, the date of the occurrence of such Change in Control and any incidental matters relating thereto; provided that any exercise of authority in conjunction with a determination of whether a Change in Control is a "change in control event" as defined in Treasury Regulation Section 1.409A-3(i)(5) shall be consistent with such regulation.

(f) "*Code*" shall mean the Internal Revenue Code of 1986, as amended from time to time, together with the regulations and official guidance promulgated thereunder, whether issued prior or subsequent to this grant.

(g) "*Consultant*" shall mean any consultant or adviser engaged to provide services to the Company or any Subsidiary who qualifies as a consultant or advisor under the applicable rules of the Securities and Exchange Commission for registration of shares on a Form S-8 Registration Statement.

(h) "*Director*" shall mean a member of the Board, as constituted from time to time.

(i) "*Disability*" shall mean Holder's inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that can be expected to last for a continuous period of not less than twelve (12) months.

(j) "*DRO*" shall mean a "domestic relations order" as defined by the Code or Title I of the Employee Retirement Income Security Act of 1974, as amended from time to time, or the rules thereunder.

(k) "*Equity Restructuring*" shall mean a nonreciprocal transaction between the Company and its stockholders, such as a stock dividend, stock split, spin-off, rights offering or recapitalization through a large, nonrecurring cash dividend, that affects the number or kind of Shares (or other securities of the Company) or the share price of Common Stock (or other securities) and causes a change in the per-share value of the Common Stock underlying outstanding Option.

(l) "*Employee*" shall mean any officer or other employee (as determined in accordance with Section 3401(c) of the Code and the Treasury Regulations thereunder) of the Company or of any Subsidiary.

(m) "*Fair Market Value*" shall mean, as of any given date, the value of a share determined as follows:

(A) If the Common Stock is (i) listed on any established securities exchange (such as the New York Stock Exchange, the Nasdaq Capital Market, the Nasdaq Global Market and the Nasdaq Global Select Market), (ii) listed on any national market system or (iii) quoted or traded on any automated quotation system, its Fair Market Value shall be the closing sales price for a share as quoted on such exchange or system for such date or, if there is no closing sales price for a share on the date in question, the closing sales price for a share on the last preceding date for which such quotation exists, as reported in *The Wall Street Journal* or such other source as the Committee deems reliable;

(B) If the Common Stock is not listed on an established securities exchange, national market system or automated quotation system, but the Common Stock is regularly quoted by a recognized securities dealer, its Fair Market Value shall be the mean of the high bid and low asked prices for such date or, if there are no high bid and low asked prices for a share on such date, the high bid and low asked prices for a share on the last preceding date for which such information exists, as reported in *The Wall Street Journal* or such other source as the Committee deems reliable; or

(C) If the Common Stock is neither listed on an established securities exchange, national market system or automated quotation system nor regularly quoted by a recognized securities dealer, its Fair Market Value shall be established by the Committee in good faith.

(n) "*Incumbent Directors*" shall mean for any period of 12 consecutive months, individuals who, at the beginning of such period, constitute the Board together with any new Director(s) (other than a Director designated by a person who shall have entered into an agreement with the Company to effect a transaction described in Section 1.1(e)(A) or 1.1(e)(D)) whose election or nomination for election to the Board was approved by a vote of at least a majority (either by a specific vote or by approval of the proxy statement of the Company in which such person is named as a nominee for Director without objection to such nomination) of the Directors then still in office who either were Directors at the beginning of the 12-month period or whose election or nomination for election was previously so approved. No individual initially elected or nominated as a director of the Company as a result of an actual or threatened election contest with respect to Directors or as a result of any other actual or threatened solicitation of proxies by or on behalf of any person other than the Board shall be an Incumbent Director.

(o) "*Non-Qualified Stock Option*" shall mean an Option that is not an "Incentive Stock Option" as such term is defined in Section 422 of the Code.

(p) "*Option*" shall mean a right to purchase Shares of the Company's Common Stock at a specified exercise price.

(q) "*Section 409A*" shall mean Section 409A of the Code and the Department of Treasury regulations and other interpretative guidance issued thereunder, including, without limitation, any such regulations or other guidance that may be issued after the grant of this Option.

(r) "*Shares*" shall mean shares of Common Stock.

(s) "*Subsidiary*" shall mean any entity (other than the Company), whether domestic or foreign, in an unbroken chain of entities beginning with the Company if each of the entities other than the last entity in the unbroken chain beneficially owns, at the time of the determination, securities or interests representing at least fifty percent (50%) of the total combined voting power of all classes of securities or interests in one of the other entities in such chain.

(t) "*Termination of Service*" shall mean:

(i) As to a Consultant, the time when the engagement of a Holder as a Consultant to the Company or any Subsidiary is terminated for any reason, with or without cause, including, without limitation, a termination by resignation, discharge, death, disability or retirement; but excluding terminations where the Consultant simultaneously commences or remains in employment or service with the Company or any Subsidiary.

(ii) As to an Employee, the time when the employee-employer relationship between a Holder and the Company or any Subsidiary is terminated for any reason, including, without limitation, a termination by resignation, discharge, death, disability or retirement; but excluding terminations where the Holder simultaneously commences or remains in employment or service with the Company or any Subsidiary.

The Committee, in its sole discretion, shall determine the effect of all matters and questions relating to any Termination of Service, including, without limitation, whether a Termination of Service has occurred, whether a Termination of Service resulted from a discharge for cause and all questions of whether particular leaves of absence constitute a Termination of Service. For purposes hereof, a Holder's employee-employer relationship or consultancy relations shall be deemed to be terminated in the event that the Subsidiary employing or contracting with such Holder ceases to remain an Subsidiary following any merger, sale of stock or other corporate transaction or event (including, without limitation, a spin-off).

ARTICLE II.
GRANT OF OPTION

2.1 Grant of Option. In consideration of Holder's past and/or continued employment with or service to the Company or a Subsidiary and Holder's execution of and/or continued compliance with the Restrictive Covenants Agreement(s) and for other good and valuable consideration, effective as of the grant date set forth in the Grant Notice (the "Grant Date"), the Company has granted to Holder the Option to purchase any part or all of an aggregate number of shares of Common Stock set forth in the Grant Notice, upon the terms and conditions set forth in the Grant Notice and this Agreement, subject to adjustment as provided in Section 3.1(b) hereof.

2.2 Exercise Price. The exercise price per share of the shares of Common Stock subject to the Option (the "Exercise Price") shall be as set forth in the Grant Notice.

2.3 Consideration to the Company. In consideration of the grant of the Option by the Company, Holder agrees to render faithful and efficient services to the Company or any Subsidiary. Nothing in the Grant Notice or this Agreement shall confer upon Holder any right to continue in the employment or service of the Company or any Subsidiary or shall interfere with or restrict in any way the rights of the Company and its Subsidiaries, which rights are hereby expressly reserved, to discharge or terminate the conditions of employment or services of Holder at any time for any reason whatsoever, with or without cause, except to the extent expressly provided otherwise in a written agreement between the Company or a Subsidiary and Holder.

2.4 Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of the Grant Notice or this Agreement, if Holder is subject to Section 16 of the Securities Exchange Act of 1934, as amended, this Option shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 thereof (including Rule 16b-3 thereof and any amendments thereto) that are requirements for the application of such exemptive rule. To the extent permitted by Applicable Law, this Option shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

ARTICLE III.
PERIOD OF EXERCISABILITY

3.1 Commencement of Exercisability.

(a) Subject to Holder's continued employment with or service to the Company or a Subsidiary on each applicable vesting date and subject to Sections 3.1(b), 3.2, 3.3, 6.9 and 6.15 hereof, the Option shall become vested and exercisable in such amounts and at such times as are set forth in the Grant Notice.

(b) Notwithstanding the Grant Notice or the provisions of Section 3.1(a) and (c), in the event of Holder's Termination of Service as a result of a termination by the Company without Cause within six (6) months following a Change in Control, the Option shall become vested and exercisable in full on the date of such Termination of Service; and

(c) Except as set forth in Section 3.1(b), unless otherwise determined by the Committee or as set forth in a written agreement between Holder and the Company, any portion of the Option that has not become vested and exercisable on or prior to the date of Holder's Termination of Service shall be forfeited on the date of Holder's Termination of Service and shall not thereafter become vested or exercisable.

3.2 Duration of Exercisability. The installments provided for in the vesting schedule set forth in the Grant Notice are cumulative. Each such installment which becomes vested and exercisable pursuant to the vesting schedule set forth in the Grant Notice shall remain vested and exercisable until it becomes unexercisable under Section 3.3 hereof. Once the Option becomes unexercisable, it shall be forfeited immediately.

3.3 Expiration of Option. The Option may not be exercised to any extent by anyone after the first to occur of the following events:

(a) The expiration date set forth in the Grant Notice;

(b) Except as the Committee may otherwise approve, in the event of Holder's Termination of Service other than for Cause or by reason of Holder's death or Disability, the expiration of ninety (90) days from the date of Holder's Termination of Service;

(c) Except as the Committee may otherwise approve, the expiration of one (1) year from the date of Holder's Termination of Service by reason of Holder's death or Disability; or

(d) Except as the Committee may otherwise approve, upon Holder's Termination of Service for Cause.

3.4 Tax Withholding. Notwithstanding any other provision of this Agreement:

(a) The Company and its Subsidiaries have the authority to deduct or withhold, or require Holder to remit to the Company or the applicable Subsidiary, an amount sufficient to satisfy any applicable federal, state, local and foreign taxes (including the employee portion of any FICA obligation, if applicable) required by law to be withheld with respect to any taxable event arising pursuant to this Agreement. The Company and its Subsidiaries may withhold or Holder may make such payment in one or more of the forms specified below:

(i) by cash or check made payable to the Company or the Subsidiary with respect to which the withholding obligation arises;

(ii) by the deduction of such amount from other compensation payable to Holder;

(iii) with respect to any withholding taxes arising in connection with the exercise of the Option, with the consent of the Committee, by requesting that the Company withhold a net number of shares of Common Stock issuable upon the exercise of the Option having a then current Fair Market Value not exceeding the amount necessary to satisfy the withholding obligation of the Company and its Subsidiaries based on the minimum applicable statutory withholding rates for federal, state, local and foreign income tax and payroll tax purposes;

(iv) with respect to any withholding taxes arising in connection with the exercise of the Option, with the consent of the Committee, by tendering to the Company shares of Common Stock having a then current Fair Market Value not exceeding the amount necessary to satisfy the withholding obligation of the Company and its Subsidiaries based on the minimum applicable statutory withholding rates for federal, state, local and foreign income tax and payroll tax purposes;

(v) with respect to any withholding taxes arising in connection with the exercise of the Option, through the delivery of a notice that Holder has placed a market sell order with a

broker acceptable to the Company with respect to shares of Common Stock then issuable to Holder pursuant to the Option, and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company or the Subsidiary with respect to which the withholding obligation arises in satisfaction of such withholding taxes; *provided* that payment of such proceeds is then made to the Company or the applicable Subsidiary at such time as may be required by the Committee, but in any event not later than the settlement of such sale; or

(vi) in any combination of the foregoing.

(b) With respect to any withholding taxes arising in connection with the Option, in the event Holder fails to provide timely payment of all sums required pursuant to Section 3.4(a), the Company shall have the right and option, but not the obligation, to treat such failure as an election by Holder to satisfy all or any portion of Holder's required payment obligation pursuant to Section 3.4(a)(ii) or Section 3.4(a)(iii) above, or any combination of the foregoing as the Company may determine to be appropriate. The Company shall not be obligated to deliver any certificate representing shares of Common Stock issuable with respect to the exercise of the Option to, or to cause any such shares of Common Stock to be held in book-entry form by, Holder or his or her legal representative unless and until Holder or his or her legal representative shall have paid or otherwise satisfied in full the amount of all federal, state, local and foreign taxes applicable with respect to the taxable income of Holder resulting from the exercise of the Option or any other taxable event related to the Option.

(c) In the event any tax withholding obligation arising in connection with the Option will be satisfied under Section 3.4(a)(iii), then the Company may elect to instruct any brokerage firm determined acceptable to the Company for such purpose to sell on Holder's behalf a whole number of shares from those shares of Common Stock then issuable upon the exercise of the Option as the Company determines to be appropriate to generate cash proceeds sufficient to satisfy the tax withholding obligation and to remit the proceeds of such sale to the Company or the Subsidiary with respect to which the withholding obligation arises. Holder's acceptance of this Option constitutes Holder's instruction and authorization to the Company and such brokerage firm to complete the transactions described in this Section 3.4(c), including the transactions described in the previous sentence, as applicable. The Company may refuse to issue any shares of Common Stock to Holder until the foregoing tax withholding obligations are satisfied, *provided* that no payment shall be delayed under this Section 3.4(c) if such delay will result in a violation of Section 409A of the Code.

(d) Holder is ultimately liable and responsible for all taxes owed in connection with the Option, regardless of any action the Company or any Subsidiary takes with respect to any tax withholding obligations that arise in connection with the Option. Neither the Company nor any Subsidiary makes any representation or undertaking regarding the treatment of any tax withholding in connection with the awarding, vesting or exercise of the Option or the subsequent sale of Common Stock. The Company and the Subsidiaries do not commit and are under no obligation to structure the Option to reduce or eliminate Holder's tax liability.

ARTICLE IV.
EXERCISE OF OPTION

4.1 Person Eligible to Exercise. During the lifetime of Holder, only Holder may exercise the Option or any portion thereof. After the death of Holder, any exercisable portion of the Option may, prior to the time when the Option becomes unexercisable under Section 3.3 hereof, be exercised by Holder's personal representative or by any person empowered to do so under the deceased Holder's will or under the then applicable laws of descent and distribution.

4.2 Partial Exercise. Subject to Section 6.2, any exercisable portion of the Option or the entire Option, if then wholly exercisable, may be exercised in whole or in part at any time prior to the time when the Option or portion thereof becomes unexercisable under Section 3.3 hereof.

4.3 Manner of Exercise. The Option, or any exercisable portion thereof, may be exercised solely by delivery to the Secretary of the Company (or any third party administrator or other person or entity designated by the Company), during regular business hours, of all of the following prior to the time when the Option or such portion thereof becomes unexercisable under Section 3.3 hereof.

(a) An exercise notice in a form specified by the Committee, stating that the Option or portion thereof is thereby exercised, such notice complying with all applicable rules established by the Committee;

(b) The receipt by the Company of full payment for the shares of Common Stock with respect to which the Option or portion thereof is exercised, in such form of consideration permitted under Section 4.4 hereof that is acceptable to the Committee;

(c) The payment of any applicable withholding tax in accordance with Section 3.4;

(d) Any other written representations or documents as may be required in the Committee's sole discretion to effect compliance with Applicable Law; and

(e) In the event the Option or portion thereof shall be exercised pursuant to Section 4.1 hereof by any person or persons other than Holder, appropriate proof of the right of such person or persons to exercise the Option.

Notwithstanding any of the foregoing, the Committee shall have the right to specify all conditions of the manner of exercise, which conditions may vary by country and which may be subject to change from time to time.

4.4 Method of Payment. Payment of the exercise price shall be by any of the following, or a combination thereof, at the election of Holder:

(a) Cash or check;

(b) With the consent of the Committee, surrender of shares of Common Stock (including, without limitation, shares of Common Stock otherwise issuable upon exercise of the Option) held for such period of time as may be required by the Committee in order to avoid adverse accounting consequences and having a Fair Market Value on the date of delivery equal to the aggregate exercise price of the Option or exercised portion thereof;

(c) Through the delivery of a notice that Holder has placed a market sell order with a broker acceptable to the Company with respect to shares of Common Stock then issuable upon exercise of the Option, and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company in satisfaction of the Option exercise price; *provided* that payment of such proceeds is then made to the Company at such time as may be required by the Committee, but in any event not later than the settlement of such sale; or

(d) Any other form of legal consideration acceptable to the Committee.

4.5 Conditions to Issuance of Common Stock. The Company shall not be required to issue or deliver any shares of Common Stock purchased upon the exercise of the Option or portion thereof prior to

fulfillment of all of the following conditions: (a) the admission of such shares of Common Stock to listing on all stock exchanges on which such Common Stock is then listed, (b) the completion of any registration or other qualification of such shares of Common Stock under any state or federal law or under rulings or regulations of the Securities and Exchange Commission or other governmental regulatory body, which the Committee shall, in its absolute discretion, deem necessary or advisable, (c) the obtaining of any approval or other clearance from any state or federal governmental agency which the Committee shall, in its absolute discretion, determine to be necessary or advisable, (d) the receipt by the Company of full payment for such shares of Common Stock, which may be in one or more of the forms of consideration permitted under Section 4.4 hereof, and (e) the receipt of full payment of any applicable withholding tax in accordance with Section 3.4 by the Company or its Subsidiary with respect to which the applicable withholding obligation arises.

4.6 Rights as Stockholder. Neither Holder nor any person or entity claiming under or through Holder will have any of the rights or privileges of a stockholder of the Company in respect of any shares of Common Stock purchasable upon the exercise of any part of the Option unless and until certificates representing such shares of Common Stock (which may be in book-entry form) will have been issued and recorded on the records of the Company or its transfer agents or registrars and delivered to Holder (including through electronic delivery to a brokerage account). No adjustment will be made for a dividend or other right for which the record date is prior to the date of such issuance, recordation and delivery, except as provided in Article V hereof. Except as otherwise provided herein, after such issuance, recordation and delivery, Holder will have all the rights of a stockholder of the Company with respect to such shares of Common Stock, including, without limitation, the right to receipt of dividends and distributions on such shares.

ARTICLE V.
CERTAIN CHANGES AND CORPORATE EVENTS

5.1 Changes in Common Stock or Assets. In the event of any stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the shares of the Company's stock or the share price of the Company's stock other than an Equity Restructuring, the Committee may make equitable adjustments, if any, to reflect such change with respect to: (a) the number and kind of Shares (or other securities or property) subject to the Option; (b) the terms and conditions of the Option (including, without limitation, any applicable performance targets or criteria with respect thereto); and (c) the grant or exercise price per share for the Option.

5.2 Potential Actions. In the event of any transaction or event described in Section 5.1 or any unusual or nonrecurring transactions or events affecting the Company, any Subsidiary of the Company, or the financial statements of the Company or any Subsidiary, or of changes in Applicable Law or Applicable Accounting Standards, the Committee, in its sole discretion, and on such terms and conditions as it deems appropriate, either by the terms of the Option or by action taken prior to the occurrence of such transaction or event, is hereby authorized to take any one or more of the following actions whenever the Committee determines that such action is appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available with respect to the Option, to facilitate such transactions or events or to give effect to such changes in Applicable Law or Applicable Accounting Standards:

(a) To provide for the termination of the Option in exchange for an amount of cash and/or other property with a value equal to the amount that would have been attained upon the exercise of the Option or realization of the Holder's rights (and, for the avoidance of doubt, if as of the date of the occurrence of the transaction or event described in this Article V the Committee determines in good faith

that no amount would have been attained upon the exercise of the Option or realization of the Holder's rights, then the Option may be terminated by the Company without payment);

(b) To provide that the Option be assumed by the successor or survivor corporation, or a parent or subsidiary thereof, or shall be substituted for by similar options, rights or awards covering the stock of the successor or survivor corporation, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of Shares and applicable exercise or purchase price, in all cases, as determined by the Committee;

(c) To make adjustments in the number and type of Shares of the Company's stock (or other securities or property) subject to the Option, and/or in the terms and conditions of (including the grant or exercise price), and the criteria included in, the Option;

(d) To provide that the Option shall be exercisable or payable or fully vested with respect to all Shares covered thereby, notwithstanding anything to the Agreement;

(e) To replace the Option with other rights or property selected by the Committee; and/or

(f) To provide that the Option cannot vest, be exercised or become payable after such event.

5.3 Equity Restructurings. In connection with the occurrence of any Equity Restructuring, and notwithstanding anything to the contrary in Sections 5.1 and 5.2, the number and type of securities subject to the Option and the exercise price or grant price thereof, if applicable, shall be equitably adjusted (and the adjustments provided under this Section 5.4(a) shall be nondiscretionary and shall be final and binding on the Holder and the Company.

5.4 Change of Control.

(a) In the event of a Change in Control, unless the Committee elects to (A) terminate the Option in exchange for cash, rights or property, or (B) cause the Option to become fully exercisable and no longer subject to any forfeiture restrictions prior to the consummation of a Change in Control, pursuant to Article V, (x) the Option (other than any portion subject to performance-based vesting) shall continue in effect or be assumed or an equivalent Option substituted by the successor corporation or a parent or subsidiary of the successor corporation and (y) the portion of the Option subject to performance-based vesting shall be subject to the terms and conditions of the Agreement and, in the absence of applicable terms and conditions, the Committee's discretion. In the event the Option continues in effect or is assumed or an equivalent Option substituted, and a Holder incurs a Termination of Service without "cause" (as such term is defined in the sole discretion of the Committee, or as set forth in the Agreement) upon or within six (6) months following the Change in Control, then such Holder shall be fully vested in such continued, assumed or substituted Option.

(b) In the event that the successor corporation in a Change in Control refuses to assume or substitute for the Option (other than any portion subject to performance-based vesting), the Committee may cause (A) any or all of the Option (or portion thereof) to terminate in exchange for cash, rights or other property pursuant to Section 5.2(a) or (B) any or all of the Option (or portion thereof) to become fully exercisable immediately prior to the consummation of such transaction and all forfeiture restrictions on any or all of the Option to lapse. If the Option is exercisable in lieu of assumption or substitution in the event of a Change in Control, the Committee shall notify the Holder that the Option shall be fully exercisable for

a period of fifteen (15) days from the date of such notice, contingent upon the occurrence of the Change in Control, and the Option shall terminate upon the expiration of such period.

(c) For the purposes of this Article V, the Option shall be considered assumed if, following the Change in Control, the Option confers the right to purchase or receive, for each share subject to the Option immediately prior to the Change in Control, the consideration (whether stock, cash, or other securities or property) received in the Change in Control by holders of Common Stock for each share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the Change in Control was not solely common stock of the successor corporation or its parent, the Committee may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of the Option, for each share subject to the Option, to be solely common stock of the successor corporation or its parent equal in fair market value to the per-share consideration received by holders of Common Stock in the Change in Control.

5.5 Additional Provisions.

(a) Unless otherwise determined by the Committee, no adjustment or action described in this Article V shall be authorized to the extent it would result in short-swing profits liability under Section 16 of the Securities Exchange Act of 1934, as amended, or violate the exemptive conditions of Rule 16b-3 of the Securities Exchange Act of 1934, as amended, or cause the Option to fail to be exempt from or comply with Section 409A.

(b) The existence of the Agreement and/or the Option shall not affect or restrict in any way the right or power of the Company or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, any merger or consolidation of the Company, any issue of stock or of options, warrants or rights to purchase stock or of bonds, debentures, preferred or prior preference stocks whose rights are superior to or affect the Common Stock or the rights thereof or which are convertible into or exchangeable for Common Stock, or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

(c) In the event of any pending stock dividend, stock split, combination or exchange of shares, merger, consolidation or other distribution (other than normal cash dividends) of Company assets to stockholders, or any other change affecting the Shares or the share price of the Common Stock including any Equity Restructuring, for reasons of administrative convenience, the Committee, in its sole discretion, may refuse to permit the exercise of the Option during a period of up to thirty (30) days prior to the consummation of any such transaction.

ARTICLE VI.
OTHER PROVISIONS

6.1 Administration. The Committee shall have the power to interpret the Grant Notice and this Agreement and to adopt such rules for the administration, interpretation and application of the Grant Notice and this Agreement as are consistent therewith and to interpret, amend or revoke any such rules. All actions taken and all interpretations and determinations made by the Committee will be final and binding upon Holder, the Company and all other interested persons. To the extent allowable pursuant to Applicable Law, no member of the Committee or the Board will be personally liable for any action, determination or interpretation made with respect to the Grant Notice or this Agreement.

6.2 Whole Shares. The Option may only be exercised for whole shares of Common Stock.

6.3 Option Not Transferable. Subject to Section 4.1 hereof, the Option may not be sold, pledged, assigned or transferred in any manner other than (a) by will or the laws of descent and distribution or (b) with the consent of the Committee, pursuant to a DRO or otherwise, to the extent permissible under Applicable Law, unless and until the shares of Common Stock underlying the Option have been issued, and all restrictions applicable to such Shares have lapsed; provided, however, that, subject to the approval of the Committee, to the extent permissible under Applicable Law, Holder may transfer this Option to or for the benefit of any immediate family member, family trust or other entity established for the benefit of Holder and/or an immediate family member thereof so long as the Company is eligible to use a Form S-8 under the Securities Act of 1933, as amended, for the registration of the sale of the Common Stock subject to this Option to such proposed transferee; provided further, that the Company shall not be required to recognize any such permitted transfer until such time as such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of this Option. For the avoidance of doubt, nothing contained in this Section 6.3 shall be deemed to restrict a transfer to the Company. Neither the Option nor any interest or right therein or part thereof shall be liable for the debts, contracts or engagements of Holder or his or her successors in interest or shall be subject to disposition by transfer, alienation, anticipation, pledge, encumbrance, assignment or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect, except to the extent that such disposition is permitted by this Section 6.3.

6.4 Adjustments. The Committee may accelerate the vesting of all or a portion of the Option in such circumstances as it, in its sole discretion, may determine. In addition, upon the occurrence of certain events relating to the Common Stock contemplated by Article V hereof (including, without limitation, an extraordinary cash dividend on such Common Stock) (and subject to the terms of Section 3.1(b) hereof), the Committee may make such adjustments as the Committee deems appropriate in the number of shares of Common Stock subject to the Option, the exercise price of the Option and the kind of securities that may be issued upon exercise of the Option. Holder acknowledges that the Option is subject to adjustment, modification and termination in certain events as provided in this Agreement, including Article V hereof (subject to the terms of Section 3.1(b) hereof).

6.5 Notices. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of the Secretary of the Company at the Company's principal office, and any notice to be given to Holder shall be addressed to Holder at Holder's last address reflected on the Company's records. By a notice given pursuant to this Section 6.5, either party may hereafter designate a different address for notices to be given to that party. Any notice shall be deemed duly given when sent via email or when sent by certified mail (return receipt requested) and deposited (with postage prepaid) in a post office or branch post office regularly maintained by the United States Postal Service.

6.6 Titles. Titles are provided herein for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

6.7 Governing Law. The laws of the State of Delaware shall govern the interpretation, validity, administration, enforcement and performance of the terms of this Agreement regardless of the law that might be applied under principles of conflicts of laws.

6.8 Conformity to Securities Laws. Holder acknowledges that the Grant Notice and this Agreement are intended to conform to the extent necessary with all Applicable Laws, including, without limitation, the provisions of the Securities Act of 1933, as amended, and the Exchange Act of 1934, as amended, and any and all regulations and rules promulgated thereunder by the Securities and Exchange

Commission and state securities laws and regulations. Notwithstanding anything herein to the contrary, the Option is granted and may be exercised, only in such a manner as to conform to Applicable Law. To the extent permitted by Applicable Law, the Grant Notice and this Agreement shall be deemed amended to the extent necessary to conform to Applicable Law.

6.9 Amendment, Suspension and Termination. To the extent permitted by Applicable Law, this Agreement may be wholly or partially amended or otherwise modified, suspended or terminated at any time or from time to time by the Committee or the Board, *provided* that, except as may otherwise be provided herein, no amendment, modification, suspension or termination of this Agreement shall adversely affect the Option in any material way without the prior written consent of Holder.

6.10 Forfeiture and Claw-Back Provisions. This Option (including any proceeds, gains, or other economic benefit actually or constructively received by Holder upon exercise of this Option or upon the resale of any Shares underlying the Option) shall be subject to the provisions of any claw-back policy implemented by the Committee or the Company, including, without limitation, any claw-back policy adopted to comply with the requirements of Applicable Law, including, without limitation, the Dodd-Frank Wall Street Reform and Consumer Protection Act and any rules or regulations promulgated thereunder, whether or not such claw-back policy was in place at the time of grant of this Option, to the extent set forth in such claw-back policy and/or in this Agreement.

6.11 Successors and Assigns. The Company may assign any of its rights under this Agreement to single or multiple assignees, and this Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer set forth in Section 6.3, this Agreement shall be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

6.12 Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of this Agreement, if Holder is subject to Section 16 of the Exchange Act, the Option, the Grant Notice and this Agreement shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including any amendment to Rule 16b-3 of the Exchange Act) that are requirements for the application of such exemptive rule. To the extent permitted by Applicable Law, this Agreement shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

6.13 Not a Contract of Employment. Nothing in the Grant Notice or in this Agreement shall confer upon Holder any right to continue to serve as an employee or other service provider of the Company or any Subsidiary or shall interfere with or restrict in any way the rights of the Company and its Subsidiaries, which rights are hereby expressly reserved, to discharge or terminate the services of Holder at any time for any reason whatsoever, with or without cause, except to the extent expressly provided otherwise in a written agreement between the Company or a Subsidiary and Holder.

6.14 Entire Agreement. The Grant Notice and this Agreement (including any exhibit hereto) constitute the entire agreement of the parties and supersede in their entirety all prior undertakings and agreements of the Company and Holder with respect to the subject matter hereof.

6.15 Section 409A. This Option is not intended to constitute "nonqualified deferred compensation" within the meaning of Section 409A. However, notwithstanding any other provision of the Grant Notice or this Agreement, if at any time the Committee determines that this Option (or any portion thereof) may be subject to Section 409A, the Committee shall have the right in its sole discretion (without any obligation to do so or to indemnify Holder or any other person for failure to do so) to adopt such amendments to the Grant Notice or this Agreement, or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, as the Committee

determines are necessary or appropriate for this Option either to be exempt from the application of Section 409A or to comply with the requirements of Section 409A.

6.16 Agreement Severable. In the event that any provision of the Grant Notice or this Agreement is held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of the Grant Notice or this Agreement.

6.17 Limitation on Holder's Rights. Receipt of the Option confers no rights or interests other than as herein provided. This Agreement creates only a contractual obligation on the part of the Company as to amounts payable and shall not be construed as creating a trust. Holder shall have only the rights of a general unsecured creditor of the Company with respect to amounts credited and benefits payable, if any, with respect to the Option, and rights no greater than the right to receive the Common Stock as a general unsecured creditor with respect to options, as and when exercised pursuant to the terms hereof.

6.18 Counterparts. The Grant Notice may be executed in one or more counterparts, including by way of any electronic signature, subject to Applicable Law, each of which shall be deemed an original and all of which together shall constitute one instrument.

6.19 Broker-Assisted Sales. In the event of any broker-assisted sale of shares of Common Stock in connection with the payment of withholding taxes as provided in Section 3.4(a)(iii) or Section 3.4(c) or the payment of the exercise price as provided in Section 4.4(c): (a) any shares of Common Stock to be sold through a broker-assisted sale will be sold on the day the tax withholding obligation or exercise of the Option, as applicable, occurs or arises, or as soon thereafter as practicable; (b) such shares of Common Stock may be sold as part of a block trade with other holders in which all holders receive an average price; (c) Holder will be responsible for all broker's fees and other costs of sale, and Holder agrees to indemnify and hold the Company harmless from any losses, costs, damages, or expenses relating to any such sale; (d) to the extent the proceeds of such sale exceed the applicable tax withholding obligation or exercise price, the Company agrees to pay such excess in cash to Holder as soon as reasonably practicable; (e) Holder acknowledges that the Company or its designee is under no obligation to arrange for such sale at any particular price, and that the proceeds of any such sale may not be sufficient to satisfy the applicable tax withholding obligation or exercise price; and (f) in the event the proceeds of such sale are insufficient to satisfy the applicable tax withholding obligation, Holder agrees to pay immediately upon demand to the Company or its Subsidiary with respect to which the withholding obligation arises an amount in cash sufficient to satisfy any remaining portion of the Company's or the applicable Subsidiary's withholding obligation.

* * * *

Exhibit 31.1

CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, G. Kelly Martin, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Novan, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting prinicples;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 8, 2018

/s/ G. Kelly Martin
G. Kelly Martin
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeff N. Hunter, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Novan, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 8, 2018

/s/ Jeff N. Hunter
Jeff N. Hunter
Executive Vice President and Chief Business Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, G. Kelly Martin, Chief Executive Officer of Novan, Inc. (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

(1) the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2018 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Date: August 8, 2018

/s/ G. Kelly Martin
G. Kelly Martin
Chief Executive Officer
(Principal Executive Officer)

This certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed "filed" by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and shall not be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Report, irrespective of any general incorporation language contained in such filing.

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, Jeff N. Hunter, Executive Vice President and Chief Business Officer of Novan, Inc. (the "Company"), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

(1) the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2018 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Date: August 8, 2018

/s/ Jeff N. Hunter
Jeff N. Hunter
Executive Vice President and Chief Business Officer
(Principal Financial Officer)

This certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed "filed" by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and shall not be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Report, irrespective of any general incorporation language contained in such filing.

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.