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

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant ☒

Filed by a Party other than the Registrant ☐

Check the appropriate box:

- ☐ Preliminary Proxy Statement
- ☐ **Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- ☒ Definitive Proxy Statement
- ☐ Definitive Additional Materials
- ☐ Soliciting Material under §240.14a-12

RHYTHM PHARMACEUTICALS, INC.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- ☒ No fee required.
- ☐ Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
- (1) Title of each class of securities to which transaction applies: _____
- (2) Aggregate number of securities to which transaction applies: _____
- (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined): _____
- (4) Proposed maximum aggregate value of transaction: _____
- (5) Total fee paid: _____
- ☐ Fee paid previously with preliminary materials.
- ☐ Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
- (1) Amount Previously Paid: _____
- (2) Form, Schedule or Registration Statement No.: _____
- (3) Filing Party: _____
- (4) Date Filed: _____



Rhythm Pharmaceuticals, Inc.

**500 Boylston Street, 11th Floor
Boston, MA 02116**

Dear Stockholder:

On behalf of the Board of Directors of Rhythm Pharmaceuticals, Inc. (the "Company", "we" or "Rhythm"), I invite you to attend our 2019 Annual Meeting of Stockholders (the "2019 Annual Meeting"). The 2019 Annual Meeting will be held on Wednesday, June 19, 2019, at 2:00 p.m., Eastern Time, at the offices of Morgan, Lewis & Bockius LLP, One Federal Street, Boston, Massachusetts 02110.

The matters to be voted upon at the 2019 Annual Meeting are listed in the Notice of 2019 Annual Meeting and more fully described in the proxy statement accompanying this letter (the "Proxy Statement").

We know that many of our Company's stockholders (each, a "Stockholder", and collectively, the "Stockholders") will be unable to attend the 2019 Annual Meeting in person. We, therefore, are soliciting proxies so that each Stockholder has an opportunity to vote on the matters that are scheduled to come before the Stockholders at the 2019 Annual Meeting. You may vote over the Internet, by telephone, or by signing, dating and returning your proxy card promptly in the enclosed postage-paid envelope. Submitting your vote via the Internet or by telephone or proxy card will not affect your right to vote in person if you decide to attend the 2019 Annual Meeting. You may revoke your proxy at any time prior to the time it is voted at the 2019 Annual Meeting. If your shares are held in street name (held for your account by a broker or other nominee), you will receive instructions from your broker or other nominee explaining how to vote your shares, and you will have the option to cast your vote by telephone or over the Internet if your voting instruction form from your broker or nominee includes instructions and a telephone number or Internet website to do so. Regardless of the number of Company shares you own, your presence in person or by proxy is important for quorum purposes and your vote is important for proper corporate action.

Thank you for your continuing interest in the Company. We look forward to seeing you at the 2019 Annual Meeting.

Sincerely,

/s/ KEITH M. GOTTESDIENER, MD

Keith M. Gottesdiener, MD
Chief Executive Officer, President, and Director
April 30, 2019



Rhythm Pharmaceuticals, Inc.
500 Boylston Street, 11th Floor
Boston, MA 02116

NOTICE OF 2019 ANNUAL MEETING OF STOCKHOLDERS

The 2019 Annual Meeting of Stockholders of Rhythm Pharmaceuticals, Inc. (the "Company", "we" or "Rhythm") will be held on Wednesday, June 19, 2019, at 2:00 p.m., Eastern Time, at the offices of Morgan, Lewis & Bockius LLP, One Federal Street, Boston, Massachusetts 02110 for the purpose of considering two company-sponsored proposals:

1. To elect Jennifer Good, Todd Foley, and Ed Mathers as Class II members of the Board of Directors (each a "Class II director"), each to serve for a three-year term until the Company's 2022 Annual Meeting of Stockholders and until their successors are duly elected and qualified; and
2. To ratify the appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2019.

We will also consider and act upon any other matters that properly come before the 2019 Annual Meeting or any adjournment or postponement thereof.

Our Board of Directors (the "Board") recommends that you vote **"FOR"** each of the nominees for Class II director (Proposal No. 1) and **"FOR"** ratification of the proposed independent registered public accounting firm (Proposal No. 2).

The Board has fixed the close of business on April 22, 2019 as the record date for determining stockholders entitled to notice of and to vote at the 2019 Annual Meeting. Therefore, each outstanding share of Rhythm's common stock (Nasdaq: RYTM) entitles the holder of record of such shares at the close of business on April 22, 2019 to receive notice of, and to vote at, the 2019 Annual Meeting or any adjournment or postponement of the 2019 Annual Meeting.

All stockholders as of the record date, or their duly appointed proxies, may attend the meeting. If you attend, you will be asked to present valid picture identification such as a driver's license or passport. If your Rhythm stock is held in a brokerage account or by a bank or other nominee, you are considered the beneficial owner of shares held in street name, and this proxy statement is being forwarded to you by your broker or nominee. As a result, your name does not appear on our list of stockholders. If your stock is held in street name, in addition to picture identification, you should bring with you a letter or account statement showing that you were the beneficial owner of our stock on the record date, in order to be admitted to the meeting.

Whether or not you expect to attend the meeting, we urge you to vote your shares by Internet, telephone, or by signing, dating and returning the proxy card included in these materials. If you choose to attend the 2019 Annual Meeting, you may still vote your shares in person, even if you have previously voted or returned your proxy by any of the methods described in our proxy statement. If your shares are held in street name in a bank or brokerage account, please refer to the materials provided by your bank, broker or other nominee for voting instructions.

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All stockholders are extended a cordial invitation to attend the meeting.

By Order of the Board of Directors,

/s/ KEITH M. GOTTESDIENER, MD

Keith M. Gottesdiener, MD
Chief Executive Officer, President, and Director
April 30, 2019

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Rhythm Pharmaceuticals, Inc.

500 Boylston Street, 11th Floor
Boston, MA 02116

PROXY STATEMENT FOR 2019 ANNUAL MEETING OF STOCKHOLDERS

To Be Held On Wednesday, June 19, 2019 at 2:00 p.m. Eastern Time,

At the offices of Morgan, Lewis & Bockius LLP,
At One Federal Street, Boston, Massachusetts 02110

GENERAL INFORMATION

When are this proxy statement and the accompanying materials scheduled to be sent to stockholders?

This proxy statement and accompanying proxy card, or for shares held in street name (held for your account by a broker or other nominee), voting instruction form, are scheduled to be first sent to stockholders beginning on April 30, 2019.

Who is soliciting my vote?

The Board of Directors (the "Board") of Rhythm Pharmaceuticals, Inc. (the "Company", "we" or "Rhythm") is soliciting your vote for the proposals to be voted on at the 2019 Annual Meeting of Stockholders (the "2019 Annual Meeting").

When is the record date for the Annual Meeting?

Rhythm's Board has fixed the record date for the 2019 Annual Meeting as of the close of business on April 22, 2019 for determining stockholders entitled to notice of and to vote at the 2019 Annual Meeting.

How many votes can be cast by all stockholders?

A total of 34,432,167 shares of common stock of Rhythm were outstanding on April 22, 2019 and are entitled to be voted at the 2019 Annual Meeting. Each share of common stock is entitled to one vote on each matter presented at the 2019 Annual Meeting. There is no cumulative voting.

How do I vote?

If you are a stockholder of record and your shares are registered directly in your name, you may vote:

- **By Internet.** You may vote by proxy via the Internet at www.investorvote.com/RYSM by following the instructions provided on the proxy card.
- **By Telephone.** If you live in the United States or Canada, you may vote by proxy by calling toll-free 1-800-652-VOTE (8683) and by following the instructions provided on the proxy card. You must have the control number that is included on the proxy card when voting.
- **By Mail.** Complete and mail your proxy card in the postage prepaid envelope you receive, and return the proxy card to Computershare Proxy Services, P.O. Box 505000, Louisville, KY, 40233. Your proxy will be voted in accordance with your instructions. If you sign and return the enclosed proxy but do not otherwise specify how you want your shares voted, they will be voted "**FOR**" the election of the Class II director nominees named herein to the Board, and "**FOR**" the ratification of Ernst & Young LLP as Rhythm's independent registered public accounting firm for the fiscal year ending December 31, 2019 and will be voted according to the discretion

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of the proxy holder named in the proxy card upon any other business that may properly be brought before the meeting and at all adjournments and postponements thereof.

- **In Person at the Meeting.** If you attend the meeting, you must bring a form of picture identification with you. You may deliver your completed proxy card in person, or you may vote by completing a ballot, which will be available at the meeting. Directions to the 2019 Annual Meeting are included on the form of proxy card included herein.

If your shares of common stock are held in street name (held for your account by a broker or other nominee), you may vote:

- **By Internet or By Telephone.** You will receive instructions from your broker or other nominee if you are permitted to vote by Internet or telephone.
- **By Mail.** You will receive instructions from your broker or other nominee explaining how to vote your shares.
- **In Person at the Meeting.** If you attend the meeting, in addition to picture identification, you should bring both an account statement or a letter from the record holder indicating that you owned the shares as of the record date, *and* contact the broker or other nominee who holds your shares to obtain a broker's proxy card and bring it with you to the meeting.

What are the Board's recommendations on how to vote my shares?

The Board recommends a vote:

- *Proposal 1: "FOR" the election of each of Jennifer Good, Todd Foley, and Ed Mathers as Class II members of the Board (the "Class II directors").*
- *Proposal 2: "FOR" ratification of Ernst & Young LLP as Rhythm's independent registered public accounting firm for the fiscal year ending December 31, 2019.*

Who pays the cost for soliciting proxies?

Rhythm will bear the cost of solicitation of proxies. This includes the charges and expenses of brokerage firms and others for forwarding solicitation material to beneficial owners of our outstanding common stock. Rhythm may solicit proxies by mail, personal interview, telephone or via the Internet through its officers, directors and other management employees, who will receive no additional compensation for their services.

Can I change or revoke my vote?

You may revoke your proxy at any time before it is voted by notifying the Secretary of Rhythm in writing at our principal executive offices, by returning a signed proxy with a later date, by transmitting a subsequent vote over the Internet or by telephone prior to the close of the Internet voting facility or the telephone voting facility, or by attending the meeting and voting in person. If your stock is held in street name, you must contact your broker or nominee for instructions as to how to change or revoke your vote.

How is a quorum reached?

The presence, in person or by proxy, of holders of at least a majority of the issued and outstanding shares entitled to vote is necessary to constitute a quorum for the transaction of business at the 2019 Annual Meeting. Abstentions and "broker non-votes," if any, will be counted as present and entitled to vote for purposes of determining whether a quorum is present for the transaction of business at the meeting.

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"Broker non-votes" are shares represented at the 2019 Annual Meeting held by brokers, banks or other nominees (i.e., in "street name") which do not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that item and has not received instructions from the beneficial owner. Generally, nominees may vote to ratify the selection of independent auditors and on other "discretionary" or "routine" items. In contrast, nominees may not vote to elect directors, because those proposals are considered "non-discretionary" items. Accordingly, if you do not instruct your broker, bank or other nominee how to vote your shares on "non-discretionary" matters, your broker, bank or other nominee will not be permitted to vote your shares on these matters. This is a "broker non-vote."

What vote is required to approve each item?

Required Vote—Election of Directors (Proposal No. 1). Directors will be elected by a plurality of the votes cast, present in person or represented by proxy at the 2019 Annual Meeting and entitled to vote on the election of directors. This means that the three individuals receiving the highest number of "FOR" votes will be elected as directors. Abstentions and broker non-votes will not be treated as votes cast for this purpose and, therefore, will not affect the outcome of the election.

Required Vote—Ratification of the Selection of Independent Registered Public Accounting Firm (Proposal No. 2). The affirmative vote of a majority of shares of our common stock, present in person or represented by proxy at the 2019 Annual Meeting and entitled to vote, is required to ratify the selection of our independent auditors. An abstention is treated as present and entitled to vote and, therefore, has the effect of a vote "against" ratification of the independent auditors. Because the ratification of the independent auditors is a routine matter, a nominee holding shares in street name may vote on this proposal in the absence of instructions from the beneficial owner.

If there are insufficient votes to approve these proposals, your proxy may be voted by the persons named in the proxy card to adjourn the 2019 Annual Meeting in order to solicit additional proxies in favor of the approval of such proposals. If the 2019 Annual Meeting is adjourned or postponed for any purpose, at any subsequent reconvening of the meeting, your proxy will be voted in the same manner as it would have been voted at the original convening of the 2019 Annual Meeting unless you withdraw or revoke your proxy.

Could other matters be decided at the Annual Meeting?

Rhythm does not know of any other matters that may be presented for action at the 2019 Annual Meeting. Should any other business properly come before the meeting, the persons named on the enclosed proxy will have discretionary authority to vote the shares represented by such proxies in accordance with their best judgment to the same extent as the person signing the proxy would be entitled to vote. If you hold shares through a broker, bank or other nominee as described above, they will not be able to vote your shares on any other business that comes before the 2019 Annual Meeting unless they receive instructions from you with respect to such matter.

What happens if the meeting is postponed or adjourned?

Your proxy may be voted at the postponed or adjourned meeting. You will still be able to change your proxy until it is voted.

What does it mean if I receive more than one proxy card or voting instruction form?

It means that you have multiple accounts at the transfer agent or with brokers. Please complete and return all proxy cards or voting instruction forms to ensure that all of your shares are voted.

Where can I find the voting results of the meeting?

The preliminary voting results will be announced at the 2019 Annual Meeting. The final results will be disclosed in a Current Report on Form 8-K within four business days after the 2019 Annual Meeting date.

What are the implications of being an "emerging growth company"?

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups (JOBS) Act of 2012 and, as such, have elected to comply with certain reduced public company reporting requirements. These reduced reporting requirements include reduced disclosure about Rhythm's executive compensation arrangements and no non-binding advisory votes on executive compensation. We will remain an emerging growth company until the earlier of (1) December 31, 2022, (2) the last day of the fiscal year (a) in which we have total annual gross revenue of at least \$1.0 billion, or (b) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds \$700.0 million as of the prior June 30th, and (3) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

Who should I call if I have any additional questions?

If you hold your shares directly, please call Hunter Smith, Chief Financial Officer of the Company, at (857) 264-4280. If your shares are held in street name, please contact the telephone number provided on your voting instruction form or contact your broker or nominee holder directly.

**Important Notice Regarding the Availability of Proxy Materials for the
2019 Annual Meeting of Stockholders to be Held on June 19, 2019**

The Notice of 2019 Annual Meeting of Stockholders, this Proxy Statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 are available free of charge at www.edocumentview.com/RYSM or www.rhythmtx.com under "Investors & Media" at "SEC Filings." Directions to the Annual Meeting are included on the form of proxy card included herein.

PROPOSAL NO. 1—ELECTION OF DIRECTORS

In accordance with Rhythm's certificate of incorporation and bylaws, each as currently amended and in effect, the Board is divided into three classes of directors of approximately equal size. The members of each class of directors are elected to serve a three-year term with the term of office of each class ending in successive years. Neil Exter, Todd Foley, and Ed Mathers are the Class II directors whose terms expire at the 2019 Annual Meeting. Neil Exter has declined to stand for re-election at the 2019 Annual Meeting. If elected at the 2019 Annual Meeting, Jennifer Good will be a Class II director. Each of Jennifer Good, Todd Foley, and Ed Mathers has been nominated for, and has agreed to stand for, election to the Board to serve as a Class II director of Rhythm for three years until the 2022 Annual Meeting of Stockholders and until their successors are duly elected and qualified or until his or her earlier death, resignation or removal.

It is intended that, unless you give contrary instructions, shares represented by proxies will be voted for the election of each of the three nominees listed above as director nominees. Rhythm has no reason to believe that any nominee will be unable to serve. In the event that one or more nominees is unexpectedly not available to serve, proxies may be voted for another person nominated as a substitute by the Board, or the Board may reduce the number of directors to be elected at the 2019 Annual Meeting. Information relating to each nominee for election as director and for each continuing director, including his or her period of service as a director of Rhythm, principal occupation and other biographical material, is included below.

A plurality of the votes cast at the meeting will be required for the election of the Class II director nominees. The three nominees for director with the highest number of affirmative votes will be elected as directors. Broker non-votes and abstentions will not be treated as votes cast for this purpose and, therefore, will not affect the outcome of the election.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR"
EACH OF THESE NOMINEES FOR CLASS II DIRECTOR.**

(PROPOSAL NO. 1 ON YOUR PROXY CARD)

BOARD OF DIRECTORS**Board Composition and Structure**

Our certificate of incorporation and bylaws, each as currently amended and in effect, state that our Board shall consist of a number of directors that shall be fixed exclusively by the Board from time to time in accordance with the bylaws of the Company. Each director holds office until his or her successor is duly elected and qualified or until his or her death, incapacity, resignation or removal. Our certificate of incorporation provides that our directors may be removed only for cause by the affirmative vote of the holders of at least 75% of the voting power of the outstanding shares of capital stock of Rhythm entitled to vote in the election of directors, voting together as a single class, at a meeting of the stockholders called for that purpose. Any vacancy in the Board, including a vacancy that results from an increase in the number of directors, may be filled only by the vote of a majority of the remaining directors then in office, although less than a quorum, or by the sole remaining director.

Our certificate of incorporation, as currently amended and in effect, provides that our Board is divided into three classes of directors, with the classes as nearly equal in number as possible. Each of our directors identified below serves in the class indicated. Subject to any earlier resignation or removal in accordance with the terms of our certificate of incorporation and bylaws, our current Class I directors will serve until the 2021 annual meeting of stockholders; if elected, our current Class II directors will serve until the 2022 annual meeting of stockholders; and our current Class III directors will serve until the 2020 annual meeting of stockholders. Any additional directorships resulting from an increase in the number of directors will be apportioned by our Board among the three classes as equally as possible.

Our Board is currently comprised of seven members. Below is a list of the names, ages as of April 22, 2019 and classification of the individuals who currently serve as our directors or are nominees to be elected at the 2019 Annual Meeting.

Name	Age	Position(s)	Class
Keith M. Gottesdiener, M.D.	65	Chief Executive Officer, President and Director	I
Todd Foley(1)	47	Director	II
Jennifer Good(4)	54	Nominee	II
Christophe R. Jean(2)	63	Director	I
Ed Mathers(3)	59	Director	II
David W. J. McGinn(2)(3)	64	Director	III
David P. Meeker(2)(3)	64	Director, Chairman of the Board	III

- (1) Member of the Compensation Committee.
- (2) Member of the Audit Committee.
- (3) Member of the Governance and Nominating Committee.
- (4) Jennifer Good is a director nominee for election at the 2019 Annual Meeting. If elected, Ms. Good will join the Compensation Committee.

In consultation with the Governance and Nominating Committee, the Board has determined that the classified board structure remains appropriate for the Company at this time. A classified board provides for stability, continuity and experience among our Board. Further, the Board believes that building a cohesive board is an important goal. In our industry in particular, long-term focus is critical. The time horizon required for successful development of pharmaceuticals makes it vital that we have a board that understands the implications of this process and has the ability to develop and implement long-term strategies while benefiting from an in-depth knowledge of Rhythm's business and operations. A classified board structure helps to ensure that there will be the continuity and stability of leadership

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required to navigate a challenging economic environment while resisting the pressure to focus on short-term results at the expense of the long-term value and success of the Company. The future success of Rhythm depends in significant part on the ability to attract and retain capable and experienced directors. In this regard, we believe that longer terms for our directors will enhance director independence from both management and stockholder special interest groups.

Director Biographies

Information concerning our continuing directors and director nominees is set forth below. The biographical description of each continuing director and director nominee includes the specific experience, qualifications, attributes and skills that led the Board to conclude that such person should serve as a director.

Class II Directors (Nominees Standing for Re-Election)

Todd Foley

Mr. Foley has served as a member of our Board since July 2014. Mr. Foley is a managing director with MPM Capital, a venture capital firm, which he joined in 1999. Prior to joining MPM, Mr. Foley worked in business development at Genentech and in management consulting with Arthur D. Little. Mr. Foley currently serves as a member of the board of directors of Chiasma, Inc., Coda Biotherapeutics, Inc., Iconic Therapeutics, Inc., Repare Therapeutics Inc., Semma Therapeutics, Inc., Entrada Therapeutics, Inc. and Tetherex Pharmaceuticals, Inc. Mr. Foley received a B.S. in chemistry from the Massachusetts Institute of Technology and an MBA from Harvard Business School.

In connection with his nomination to the Board, the Board considered Mr. Foley's broad experience in the life sciences industry, including his management and consulting roles, his tenure as a venture capitalist, as well as his service on the boards of directors of numerous companies. The Board also noted when considering his nomination that Mr. Foley has extensive experience with emerging therapeutic modalities.

Ed Mathers

Mr. Mathers has served as a member of our Board since March 2013. He has been a Partner at New Enterprise Associates, or NEA, a venture capital firm, since August 2008. Mr. Mathers currently serves on the boards of directors of Amplyx Pharmaceuticals, Inc., Envisia Therapeutics Inc., Inozyme Pharma, Inc., Liquidia Technologies, Inc., Lumos Pharma, Inc., ObsEva SA, Ra Pharmaceuticals, Inc., Reneo Pharmaceuticals, Inc., Akouos, Inc., Trevi Therapeutics, Inc., Mirum Pharmaceuticals, Senti Biosciences and Synlogic, LLC, all of which are biotechnology companies. Prior to joining NEA, Mr. Mathers served in various corporate development roles at MedImmune, Inc., a biotechnology company that was acquired by AstraZeneca PLC in 2007, culminating in the position of Executive Vice President, Corporate Development and Venture. In this role, he also led the company's venture capital subsidiary, MedImmune Ventures, Inc., from 2002 to 2008. Mr. Mathers was a director of MedImmune, LLC, from 2007 to 2008. From 2000 to 2002, Mr. Mathers was Vice President, Marketing and Corporate Licensing and Acquisitions at Inhale Therapeutic Systems, Inc., a biopharmaceutical company, which is now known as Nektar Therapeutics, Inc. Previously, for 15 years, Mr. Mathers was at Glaxo Wellcome, Inc., where he held sales and marketing positions of increasing responsibility. Mr. Mathers received a B.S. in chemistry from North Carolina State University.

In connection with his nomination to the Board, the Board considered Mr. Mathers' senior executive roles in publicly-held life sciences companies, his extensive experience as a venture capitalist, as well as his service on the boards of directors of numerous biotechnology companies.

Class II Nominee

Jennifer Good

Ms. Good was nominated by our Board to serve as a director of our company on April 23, 2019. She is a co-founder of Trevi Therapeutics, Inc., or Trevi, and has served as a member of the board of directors and as the President and Chief Executive Officer of Trevi since its inception in March 2011. Previously, Ms. Good served at Penwest Pharmaceuticals Co., or Penwest, from 1997 to 2010, where she held various positions including President and Chief Executive Officer, Chief Operating Officer and Chief Financial Officer. Ms. Good served on the board of Juniper Pharmaceuticals, Inc., a publicly traded healthcare company, from September 2017 until it was acquired by Catalent, Inc. in August 2018. Ms. Good has also served as a board member of the Friedrich's Ataxia Research Alliance (FARA), a patient advocacy group advancing treatments for the cure of Friedrich's Ataxia, since 2011. Ms. Good received a Bachelor of Business Administration degree with a concentration in accounting from Pacific Lutheran University in 1987 and is a Certified Public Accountant (inactive).

In connection with her nomination to the Board, the Board considered the role Ms. Good played in the founding and the growth of Trevi and her senior executive roles at publicly-held life sciences companies, as well as her service on the boards of directors of biotechnology companies and organizations.

Current Directors Not Standing for Re-Election at the 2019 Annual Meeting

Keith M. Gottesdiener, M.D.

Dr. Gottesdiener has been Chief Executive Officer and a member of the Board since October 2011 and was chairman of the Board from that date until April 2017. He has been President since August 2017. He joined Rhythm after 16 years at Merck Research Laboratories, or Merck. Dr. Gottesdiener joined Merck in 1995 and held positions of increasing responsibility, eventually leading Merck's early clinical development across all therapeutic areas from 2001 through early 2006. From 2006 to 2011, he was a leader of Merck's late clinical development organization, first overseeing the development of Merck's infectious diseases and vaccine products through pivotal trials, registration, and life cycle management, including Gardasil™ (HPV Vaccine), Rotateq™ (rotavirus vaccine), Zostavax™ (zoster vaccine) and Isentress™ (HIV integrase inhibitor), among others. In 2008, Dr. Gottesdiener was appointed Late Stage Therapeutic Group Leader, and in that role led Merck's late-stage clinical development efforts (from Phase 2 through patent expiry) across all therapeutic areas. After Merck's merger with Schering Plough in 2009, he continued as co-head of late development. Dr. Gottesdiener received his B.A. from Harvard College and his M.D. from the University of Pennsylvania. He completed his residency and fellowship at the Brigham and Women's Hospital-Beth Israel Medical Center-Dana Farber Cancer Institute Children's Hospital programs. After his fellowship, Dr. Gottesdiener did postdoctoral research in the laboratory of Dr. Jack Strominger at Dana Farber Cancer Institute working on the molecular immunology of the T-cell receptor. In 1986, he joined the faculty as an assistant professor at Columbia University, started an independent research laboratory with NIH RO-1 funding, focusing on gene transcription, and was Associate Clinical Professor of Medicine at the time he left to join Merck in 1995. Dr. Gottesdiener was a director and the chief executive officer of Motus Therapeutics, Inc., with which the Company was previously affiliated ("Motus") until December 2016. Dr. Gottesdiener is currently a director of Intercept Pharmaceuticals and Rhythm Holding Company, LLC.

In connection with his nomination to the Board, the Board considered Dr. Gottesdiener's extensive involvement in orchestrating the Company's growth in his capacity as Chief Executive Officer, his extensive knowledge of the Company's science and clinical development, the leadership he has demonstrated as Chief Executive Officer, and his skill in developing effective strategies for the

Company. Dr. Gottesdiener's significant experience in clinical development and his clinical and academic experience were also recognized when he was considered as a nominee.

Christophe R. Jean

Mr. Jean has served as a member of our Board since April 2015. He is currently a Senior Advisor for JSB Partners, LLC and was recently Executive Vice President of Corporate Strategy, Business Development, Alliances and M&A for the Ipsen Group, from 2013 until 2018, after serving for 11 years in the position of Executive Vice-President, Chief Operating Officer, with responsibility for all commercial operations and medical affairs worldwide as well as Ipsen's therapeutic area franchises. Prior to joining Ipsen, Mr. Jean was President and CEO for the pharmaceutical activities of the Pierre Fabre Group and President of Europe, Middle East, and Africa for Novartis' Pharmaceutical Division. Prior to the merger of Ciba-Geigy and Sandoz that formed Novartis, he held a number of marketing and management positions in Europe and Latin America for Ciba-Geigy, culminating as Head of Finance and IT Worldwide and Member of the Pharma Executive Committee. Mr. Jean is a member of the Ipsen Executive Leadership Team, the Supervisory Board of Keosys, and the European Biopharmaceutical Enterprises Board. He holds an MBA from Harvard Business School.

In connection with his nomination to the Board, the Board considered Mr. Jean's international business experience and executive leadership at several of the world's leading pharmaceutical companies and his long career in commercial leadership roles. The Board also considered Mr. Jean's extensive experience in commercializing therapeutics outside of the United States.

David P. Meeker

Dr. Meeker has served as a member of our Board since November 2015 and became Chairman of the Board in April 2017. Dr. Meeker currently serves as CEO of KSQ Therapeutics, Inc., a position he has held since October 2017. From October 2011 until June 2017, Dr. Meeker served as President and Chief Executive officer of Genzyme, a unit of Sanofi, a global biotechnology company. Dr. Meeker oversaw the company's two business units—Rare Diseases and Multiple Sclerosis. As an Executive Vice President of Sanofi, he was a member of Sanofi's Executive Committee. Dr. Meeker joined Genzyme in 1994 as Medical Director to work on the Cystic Fibrosis Gene Therapy program. Subsequently, as Vice President, Medical Affairs, he was responsible for the development of rare disease therapies that today represent transformative and life-saving advancements in medicine for patients. Prior to Genzyme's merger with Sanofi in 2011, Dr. Meeker was Genzyme's Chief Operating Officer, responsible for its commercial organization, overseeing its business units, country management organization and global market access functions. He played an important role in the integration with Sanofi. Prior to joining Genzyme, Dr. Meeker was the director of the Pulmonary Critical Care Fellowship at the Cleveland Clinic and an assistant professor of medicine at Ohio State University. Dr. Meeker is currently a member of the board of directors of MyoKardia, Inc. He has authored more than 40 articles and multiple book chapters. Dr. Meeker received his M.D. from the University of Vermont Medical School. He completed the Advanced Management Program at Harvard Business School in 2000.

In connection with his nomination to the Board, the Board considered Dr. Meeker's deep experience as a senior executive at leading global pharmaceutical companies, and his involvement in the development and commercialization of pharmaceutical product candidates for the treatment of rare and ultra-rare diseases. The Board also considered the integral role he played in the growth of Genzyme during its period of rapid growth. The Board also noted Dr. Meeker's extensive scientific and clinical experience, both in academia and as part of one of the world's leading medical institutions.

David W.J. McGirr

Mr. McGirr has served as a member of our Board since November 2015. Mr. McGirr serves as a director of X4 Pharmaceuticals, Inc., a clinical-stage biopharmaceutical company focused on the discovery and development of novel therapeutics designed to improve immune cell trafficking to treat rare diseases and cancer, Menlo Therapeutics, Inc., a late-stage biopharmaceutical company focused on an NK-1 receptor antagonist for the treatment of pruritus, and Inmed Incorporated, a pharmaceutical company devoted to the treatment of rare diseases. From March 2013 until June 2014, Mr. McGirr was Senior Advisor to the chief executive officer of Cubist Pharmaceuticals, or Cubist, and from November 2002 to March 2013, Mr. McGirr was Senior Vice President and Chief Financial Officer of Cubist. Prior to joining Cubist in 2002, Mr. McGirr was the President and Chief Operating Officer of Hippo Inc., an internet technology, venture-financed company. Mr. McGirr served as a member of Hippo Inc.'s board of directors from 1999 to 2003. From 1996 to 1999, he was the President of GAB Robins North America, Inc., a risk management company, serving also as Chief Executive Officer from 1997 to 1999. Mr. McGirr was a private equity investor from 1995 to 1996. From 1978 to 1995, Mr. McGirr served in various positions within the S.G. Warburg Group, ultimately as Chief Financial Officer, Chief Administrative Officer and Managing Director of S.G. Warburg & Co., Inc., a position he held from 1992 to 1995. Mr. McGirr received a B.Sc. in Civil Engineering from the University of Glasgow and received an M.B.A. from The Wharton School at the University of Pennsylvania. Mr. McGirr has been designated an audit committee financial expert as defined in applicable SEC rules.

In connection with his nomination to the Board, the Board considered Mr. McGirr's deep experience in corporate finance and financial reporting, as well as his knowledge, perspective and corporate governance expertise. The Board also considered that his expertise in financial and accounting matters, his prior experience as Chief Financial Officer of a leading biotechnology company, and his service on other public company boards and committees would significantly benefit the Company.

CORPORATE GOVERNANCE

Director Independence

Under Nasdaq rules, a majority of a listed company's board of directors must be comprised of independent directors. In addition, Nasdaq rules require that, subject to specified exceptions, each member of a listed company's audit committee and compensation committee be independent and satisfy additional independence criteria set forth in Rules 10A-3 and 10C-1, respectively, under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Under Nasdaq rules, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Based upon information requested from and provided by our directors and nominees concerning their background, employment and affiliations, including family relationships, our Board has determined, upon the recommendation of our Governance and Nominating Committee, that each of our directors and nominees other than Keith M. Gottesdiener, our President and Chief Executive Officer, has no relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and is independent within the meaning of the director independence standards of Nasdaq rules and SEC rules. Our Board has also determined that each of the current members of our Audit Committee and our Compensation Committee as set forth in the "Board Committees" section below satisfies the independence standards for such committee. In making such determination, our Board considered the relationships that each non-employee director has with Rhythm and all other facts and circumstances deemed relevant in determining their independence, including Christophe R. Jean's role as executive vice president at Ipsen Pharma SAS, an entity with which we have an ongoing contractual relationship.

There are no family relationships among any of our directors, nominees or executive officers.

Board Meetings, Attendance and Executive Sessions

The Board held six meetings and took action by written consent six times during the year ended December 31, 2018. All board members attended at least 75% of the meetings of the Board and the committees of the Board on which they served.

Executive sessions, or meetings of the outside (non-management) directors without management present, are held regularly. The non-management directors met in executive session during each of the regularly scheduled Board meetings during the year ended December 31, 2018.

Rhythm encourages its directors to attend the Annual Meeting of Stockholders. All members of the Board attended the 2018 Annual Meeting of Stockholders.

Board of Directors Leadership Structure

The positions of chairman of the Board and chief executive officer are presently separated. Our Board recognizes the time, effort and energy that the chief executive officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our chairman, particularly as the Board's oversight responsibilities continue to grow. Our Board believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

The Board of Directors' Role in Risk Oversight

The Audit Committee of the Board is primarily responsible for overseeing our risk management processes on behalf of the Board. The Audit Committee receives reports from management regarding

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our assessment of risks. In addition, the Audit Committee reports regularly to the Board, which also considers our risk profile. The Audit Committee and the Board focus on the most significant risks we face and our general risk management strategies. While the Board oversees our risk management, management is responsible for day-to-day risk management processes. Our Board expects management to consider risk and risk management in each business decision, to proactively develop and monitor risk management strategies and processes for day-to-day activities and to effectively implement risk management strategies adopted by the Audit Committee and the Board. We believe this division of responsibilities is the most effective approach for addressing the risks we face and that the leadership structure of our Board, which also emphasizes the independence of the Board in its oversight of its business and affairs, supports this approach.

Board Committees

Our Board has established the following committees: an Audit Committee, a Compensation Committee, and a Governance and Nominating Committee. The composition and responsibilities of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by our Board. Each of the Audit Committee, Compensation Committee and Governance and Nominating Committee operates pursuant to a written charter and each committee reviews and assesses the adequacy of its charter annually and recommends any proposed changes to the Board for approval. The charters for the Audit Committee, Compensation Committee, and Governance and Nominating Committee are all available on our website at www.rhythmtx.com under "Investors & Media" at "Corporate Governance."

The following table describes which directors serve on each of the Board committees.

<u>Name:</u>	<u>Governance and Nominating Committee</u>	<u>Compensation Committee</u>	<u>Audit Committee</u>
Neil Exter(1)		X	
Todd Foley		X	
Christophe R. Jean			X
Ed Mathers	X		
David W. J. McGirr	X		X
David P. Meeker	X		X

- (1) Neil Exter has declined to stand for re-election at the 2019 Annual Meeting. If elected, Jennifer Good will replace Neil Exter as a member of the Compensation Committee.

Audit Committee

Our Audit Committee provides oversight of our accounting and financial reporting process, the audit of our financial statements and our internal control function. Among other matters, the Audit Committee is responsible for the following: assisting the Board in oversight of the independent auditors' qualifications, independence and performance; the engagement, retention and compensation of the independent auditors; reviewing the scope of the annual audit; reviewing and discussing with management and the independent auditors the results of the annual audit and the review of our quarterly financial statements, including the disclosures in our annual and quarterly reports filed with the SEC; reviewing our risk assessment and risk management processes; establishing procedures for receiving, retaining and investigating complaints received by us regarding accounting, internal accounting controls or audit matters; and approving audit and permissible non-audit services provided by our independent auditor.

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The current members of our Audit Committee are David W.J. McGirr, who is the chair of the Audit Committee, Christophe R. Jean, and David P. Meeker. All members of our Audit Committee meet the requirements for financial literacy under the applicable rules and regulations of the SEC and Nasdaq. Our Board has determined that Mr. McGirr is an audit committee financial expert as defined under the applicable rules of the SEC and has the requisite financial sophistication under the applicable rules and regulations of Nasdaq as a result of, among other things, his senior-level executive experience, including his service as Chief Financial Officer of Cubist from November 2002 to March 2013. All of the members of our Audit Committee are independent directors as defined under the applicable rules and regulations of the SEC and Nasdaq.

During the year ended December 31, 2018, the Audit Committee met four times and took action by written consent one time. The report of the Audit Committee is included in this Proxy Statement under "Audit Committee Report."

Compensation Committee

Our Compensation Committee adopts and administers the compensation policies, plans and benefit programs for our executive officers and all other members of our executive team. Our Compensation Committee is also responsible for making recommendations regarding non-employee director compensation to the full Board. In addition, among other things, our Compensation Committee evaluates annually, in consultation with the Board, the performance of our chief executive officer, reviews and approves corporate goals and objectives relevant to compensation of our chief executive officer and other executives and evaluates the performance of these executives in light of those goals and objectives. Our Compensation Committee also administers our equity compensation plans. The current members of our Compensation Committee are Neil Exter, who is the chair of the Compensation Committee, and Todd Foley. Neil Exter has declined to stand for re-election at the 2019 Annual Meeting and, if elected, Jennifer Good will replace Neil Exter as a member and the chair of our Compensation Committee. All members of our Compensation Committee are independent under the applicable rules and regulations of the SEC and Nasdaq.

During the year ended December 31, 2018, the Compensation Committee met five times and took action by written consent three times.

Governance and Nominating Committee

Our Governance and Nominating Committee is responsible for, among other things, making recommendations regarding corporate governance, the composition of our Board, the identification, evaluation and nomination of director candidates and the structure and composition of committees of our Board. In addition, our Governance and Nominating Committee oversees our corporate governance guidelines, reviews and assesses the adequacy of our committee charters, oversees compliance with our code of business conduct and ethics, contributes to succession planning, reviews policies and procedures with respect to any related party transactions and oversees our board self-evaluation process. The current members of our Governance and Nominating Committee are David P. Meeker, who is the chair of the Governance and Nominating Committee, Ed Mathers, and David W.J. McGirr. All of the members of our Governance and Nominating Committee are independent under the applicable rules and regulations of Nasdaq.

During the year ended December 31, 2018, the Governance and Nominating Committee took action by written consent one time.

Policies Governing Director Nominations

Director Nomination Process

Our Board is responsible for selecting its own members. The Board delegates the selection and nomination process to the Governance and Nominating Committee, with the expectation that other members of the Board and of management will be requested to take part in the process as appropriate. The Governance and Nominating Committee makes recommendations to the Board regarding the size and composition of the Board. The Governance and Nominating Committee reviews annually with the Board the composition of the Board as a whole and recommends, if necessary, measures to be taken so that the Board reflects the appropriate balance of knowledge, experience, skills, expertise and diversity required for the Board as a whole and contains at least the minimum number of independent directors required by applicable laws and regulations. The Governance and Nominating Committee is responsible for ensuring that the composition of the Board accurately reflects the needs of Rhythm's business and, in furtherance of this goal, for proposing the resignation of members for purposes of ensuring the appropriate members and skills. The Governance and Nominating Committee recommends, and the Board nominates, candidates to stand for election as directors.

Generally, our Governance and Nominating Committee identifies candidates for director nominees in consultation with management, through the use of search firms or other advisors, through recommendations submitted by stockholders or through such other methods as the Governance and Nominating Committee deems to be helpful to identify candidates. Once candidates have been identified, our Governance and Nominating Committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the Governance and Nominating Committee. The Governance and Nominating Committee may gather information about the candidates through interviews, detailed questionnaires, background checks or any other means that the Governance and Nominating Committee deems to be appropriate in the evaluation process. The Governance and Nominating Committee then meets as a group to discuss and evaluate the qualifications and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of the Board. Based on the results of the evaluation process, the Governance and Nominating Committee recommends to the Board for approval candidates as director nominees for election to the Board. Jennifer Good, our director nominee, was identified and recommended by a member of our Board and Governance and Nominating Committee. Our Governance and Nominating Committee evaluated Ms. Good's qualifications to serve as a member of our Board and recommended that our Board approve her as a director nominee for election to our Board at the 2019 Annual Meeting.

Stockholders may also nominate persons to be elected as directors. The Governance and Nominating Committee will consider director candidates recommended by our stockholders in accordance with Rhythm's bylaws. If a stockholder wishes to nominate a person for election as director, such stockholder must follow the procedures contained in our bylaws. In evaluating candidates recommended by our stockholders, the Governance and Nominating Committee applies the same criteria set forth below under "Minimum Qualifications." To nominate a person to stand for election as a director, a stockholder must provide our Secretary with timely notice of the nomination and the notice must include the information required by Section 2.12(b) of our bylaws.

Additional information regarding requirements for stockholder nominations for next year's annual meeting is described in this Proxy Statement under "General Matters—Stockholder Proposals and Nominations."

Minimum Qualifications

Our Governance and Nominating Committee will consider, among other things, the following qualifications, skills and attributes when recommending candidates for the Board's selection as

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nominees for the Board and as candidates for appointment to the Board's committees. The nominee shall have the highest personal and professional integrity, shall have demonstrated exceptional ability and judgment, and shall be most effective, in conjunction with the other members of the Board, in collectively serving the long-term interests of our stockholders. Board members should possess such attributes and experience as are necessary to provide a broad range of personal characteristics including diversity, management skills and business experience. Directors should be able to commit the requisite time for preparation and attendance at regularly scheduled Board and committee meetings, as well as be able to participate in other matters necessary to ensure that good corporate governance is practiced.

In evaluating proposed director candidates, our Governance and Nominating Committee may consider, in addition to the minimum qualifications and other criteria for board membership approved by the Board from time to time, all facts and circumstances that it deems appropriate or advisable, including, among other things, diversity, not limited to race, gender or national origin, the skills of the proposed director candidate, his or her depth and breadth of professional experience or other background characteristics, his or her independence and the needs of the Board. We have no formal policy regarding board diversity. Our Governance and Nominating Committee's priority in selecting Board members is the identification of persons who will further the interests of Rhythm through an established record of professional accomplishment, the ability to contribute positively to the collaborative culture among Board members, and professional and personal experiences and expertise relevant to our growth strategy. The Governance and Nominating Committee will consider candidates recommended by stockholders.

Communication with the Board of Directors

Stockholders wishing to communicate with our Board may do so by writing to the Board or to the non-employee members of the Board as a group, at:

Rhythm Pharmaceuticals, Inc.
500 Boylston Street, 11th Floor
Boston, MA 02116
Attention: Secretary

The communication must prominently display the legend "BOARD COMMUNICATION" in order to indicate to the Secretary that it is a communication for the Board. Upon receiving such a communication, the Secretary will promptly forward the communication to the relevant individual or group to which it is addressed. Certain items that are unrelated to the Board's duties and responsibilities may be excluded, such as spam, junk mail and mass mailings, resumes and other forms of job inquiries, surveys and business solicitations or advertisements. The Secretary will not forward any communication determined in good faith belief to be frivolous, unduly hostile, threatening, illegal or similarly unsuitable.

Compensation Committee Interlocks and Insider Participation

During the last completed fiscal year Neil Exter and Todd Foley served on the Compensation Committee. None of the members of our Compensation Committee has at any time during the prior fiscal year been one of our officers or employees. None of the members of the Compensation Committee during the prior fiscal year were formerly one of our officers. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our Board or Compensation Committee.

Board Observer Rights

In connection with our initial public offering in 2017, the Board invited Sara Brownstein of Baker Bros. Advisors LP to continue to attend all meetings of the Board in a nonvoting observer capacity. The Board may terminate the board observer rights in its sole discretion.

Code of Business Conduct and Ethics and Corporate Governance Guidelines

We have adopted a code of business conduct and ethics that applies to all of our employees, including our executive officers, and directors, and those employees responsible for financial reporting. The code of business conduct and ethics is available on our website at www.rhythmtx.com under "Investors & Media" at "Corporate Governance"; or by requesting a copy, free of charge, in writing from our Secretary at Rhythm Pharmaceuticals, Inc., 500 Boylston Street, 11th Floor, Boston, MA 02116. We intend to post on our website any amendment to, or waiver under, a provision of the code of business conduct and ethics that applies to certain of our executive officers within four business days following the date of such amendment or waiver.

A copy of our corporate governance guidelines may also be accessed free of charge by visiting our website at www.rhythmtx.com under "Investors & Media" at "Corporate Governance" or by requesting a copy from our Secretary at our principal executive offices above.

DIRECTOR COMPENSATION

Under our director compensation program, we pay our non-employee directors retainers in cash. We do not pay any compensation to our President and Chief Executive Officer in connection with his service on our Board. The compensation that we pay to our President and Chief Executive Officer is discussed in the "Executive Compensation" section of this Proxy Statement. For 2018, each non-employee director received an annual retainer fee of \$35,000 paid in arrears. In addition, in 2018 non-employee directors received the following, as applicable:

<u>Non-Employee Director</u>	<u>Annual Fee</u>
Lead Director	\$ 25,000
Non-Executive Chair	\$ 30,000
Chairman of the Audit Committee	\$ 15,000
Member of the Audit Committee (other than chairman)	\$ 7,500
Chairman of the Compensation Committee	\$ 10,000
Member of the Compensation Committee (other than chairman)	\$ 5,000
Chairman of the Governance and Nominating committee	\$ 8,000
Member of the Governance and Nominating committee (other than chairman)	\$ 4,000

We also reimburse our non-employee directors for reasonable travel and out-of-pocket expenses incurred in connection with attending Board and committee meetings.

Under the non-employee director compensation policy, each individual who is initially appointed or elected to the Board is also eligible to receive an option to purchase up to 20,000 shares of our common stock under our 2017 Equity Incentive Plan, or the Plan, on the date he or she first becomes a nonemployee director. These option grants vest annually over a three-year period from the date of grant, subject to continued service as a non-employee director through that vesting date. In addition, on the date of the annual meeting of stockholders, each continuing non-employee director who has served on the Board for a minimum of six months is eligible to receive an option grant to purchase 10,000 shares of our common stock, which will vest in full upon the earlier of the first anniversary of the date of grant or the date of the next annual meeting of stockholders. The exercise price for each of these option grants will be equal to the fair market value of our common stock on the date of grant. These new director grants and annual grants will be subject to approval by our Board at the time of grant.

This policy is intended to provide a total compensation package that enables us to attract and retain qualified and experienced individuals to serve as directors and to align our directors' interests with those of our stockholders.

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The following table sets forth information regarding compensation earned by our non-employee directors during fiscal year 2018.

Name	Fees earned in cash \$(1)	Option Awards \$(2)(3)	Total (\$)
Neil Exter	\$ 45,000	\$ 201,400	\$ 246,400
Todd Foley	\$ 40,000	\$ 201,400	\$ 241,400
Christophe R. Jean	\$ 42,500	\$ 201,400	\$ 243,900
Ed Mathers	\$ 39,000	\$ 201,400	\$ 240,400
David W. J. McGirr	\$ 54,000	\$ 201,400	\$ 255,400
David P. Meeker	\$ 80,500	\$ 201,400	\$ 281,900

- (1) Amounts represent annual cash compensation earned for services rendered by each member of the Board.
- (2) These options fully vest on June 6, 2019. These grants have a weighted average exercise price of \$20.14 per option.
- (3) Amounts shown reflect the grant date fair value of options awarded during fiscal year 2018 determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, *Compensation—Stock Compensation*. These amounts exclude the value of estimated forfeitures.

The following table sets forth, as of December 31, 2018, the aggregate number of exercisable and unexercisable option awards outstanding held by our non-employee directors at that time.

Name	Option Awards	
	Exercisable	Unexercisable
Neil Exter	—	10,000
Todd Foley	—	10,000
Christophe R. Jean	—	10,000
Ed Mathers	—	10,000
David W. J. McGirr	72,701	24,540
David P. Meeker	65,431	53,620

EXECUTIVE OFFICERS

Below is a list of the names, ages as of April 22, 2019, positions, and a brief account of the business experience of the individuals who serve as our executive officers.

Name	Age	Position(s)
Keith M. Gottesdiener, M.D.	65	Chief Executive Officer, President and Director
Hunter C. Smith	51	Chief Financial Officer and Treasurer
Nithya Desikan	40	Chief Commercial Officer
Simon Kelner	46	Chief Human Resources Officer
Murray Stewart, M.D.	58	Chief Medical Officer
Lex H.T. Van der Ploeg, Ph.D.	64	Chief Scientific Officer

Executive Officer Biographies

Keith M. Gottesdiener, M.D. | Chief Executive Officer and President

Please see Dr. Gottesdiener's biographical information under "Board of Directors—Director Biographies," of this Proxy Statement.

Hunter C. Smith | Chief Financial Officer and Treasurer

Mr. Smith has been Chief Financial Officer since July 2017 and Treasurer since August 2017. He has more than 25 years of global finance and management experience across multiple industries and financial disciplines, including expertise in business analysis and planning, mergers and acquisitions, treasury, capital raising and investor relations. Previously, he was Vice President, Finance and Chief Financial Officer of the Inflammation and Immunology Business Unit at Celgene Corporation from 2013 to July 2017. In this role, Mr. Smith provided finance leadership for the global launch of Otezla® and led global business planning and analysis for commercial affiliates and clinical study activities in over 16 countries. Before joining Celgene, Mr. Smith worked in roles of increasing responsibility at Bunge Limited from 1999 to 2013, including Director of Investor Relations, Chief Financial Officer—Asia, Corporate Treasurer, and Chief Financial Officer of Bunge's Sugar and Bioenergy Segment. Mr. Smith also serves as an independent director of Genesee & Wyoming Inc. and is a member of its compensation and governance committees. Mr. Smith holds an MBA in Finance from New York University's Stern School of Business and a B.A. in History from Northwestern University.

Nithya Desikan | Chief Commercial Officer

Ms. Desikan has been Chief Commercial Officer since July 2017. She has over 15 years of experience commercializing new therapies in domestic and global markets. Previously, Ms. Desikan worked at Biogen Inc., where she served most recently as Vice President and Asset Executive, from September 2016 to July 2017, overseeing global profit and loss account for TECFIDERA® and supporting the product's position as the #1 prescribed oral therapy in multiple sclerosis and from November 2015 to September 2016, building a team to support the Biogen pipeline for the clinical development of inflammatory bowel disease. Prior to that, Ms. Desikan held the role of Vice President and Program Executive from September 2014 to November 2015, where she led Biogen's Hematology business, now the Biogen spin-off, Bioverativ, to drive the growth of ALPROLIX® and ELOCTATE® and the development of multiple preclinical assets. Before that, from February 2012 to September 2014, Ms. Desikan built the strategy to support the U.S. launch of ALPROLIX, Biogen's first entrant into the orphan hemophilia market. Before joining Biogen Inc., Ms. Desikan spent 12 years at Johnson & Johnson in the United States and China, supporting brands including: XARELTO®, LEVAQUIN®, TOPAMAX®, ULTRACET®, NUCYNTA®, NUCYNTA® ER and VELCADE®. Ms. Desikan holds a B.S. in Material Science Engineering, with honors, from the University of Florida.

Simon D. Kelner | Chief Human Resources Officer

Mr. Kelner has been Chief Human Resources Officer since June 2018. He has over 20 years of experience serving in various human resources leadership roles across multiple industries, including with pharmaceutical companies and in the United States, Switzerland, Israel, and the United Kingdom. Previously, Mr. Kelner worked at Teva Pharmaceuticals from 2016 through 2018, where he served as Vice President, Human Resources—Global Talent Acquisition and Mobility, and developed hiring and talent engagement models. Prior to that, Mr. Kelner held roles of increasing responsibility at Merck from 2003 to 2016, and served most recently as Global Head Talent Development / Future Employment Models and Executive Director, HR Business Partner—R&D, Technology, Finance and Strategy. Mr. Kelner holds an International Executive MBA from Northwestern's Kellogg School of Management, a B.Sc. with Honors in Management Sciences from the University of Manchester Institute of Science and Technology, and a certification in Professional Human Resources Qualifications from the Chartered Institute of Personnel and Development.

Murray Stewart, M.D. | Chief Medical Officer

Dr. Stewart has been Chief Medical Officer since October 2018. Before joining Rhythm, he was Executive Vice President, Head of Research and Development of Novilion Therapeutics, Inc., or Novilion, from November 2017 to October 2018. From April 2014 to November 2017, Dr. Stewart was Chief Medical Officer of GlaxoSmithKline, or GSK, with global responsibility for the vaccines, pharmaceutical and consumer business units. Prior to that, after joining GSK in 2000 as associate director for clinical research and development in the United Kingdom, Dr. Stewart served in positions of increasing responsibility at GSK, including as GSK's therapy area head for the cardiovascular and metabolic therapy areas from January 2010 to March 2014 and the clinical head of the biopharmaceutical unit from December 2009 to December 2010. Prior to joining the pharmaceutical industry, Dr. Stewart worked as a diabetes consultant and senior lecturer and was consultant physician/honorary senior lecturer and head of clinical services at the Diabetes Centre, Newcastle upon Tyne in the United Kingdom. Dr. Stewart serves on the board of directors of X4 Pharmaceuticals, Inc. and Vivli, a non-profit organization implementing a clinical research data-sharing platform. Dr. Stewart completed his medical training at Southampton Medical School in the United Kingdom and is a Fellow of the Royal College of Physicians.

Lex H.T. Van der Ploeg, Ph.D. | Chief Scientific Officer

Dr. Van der Ploeg has been Chief Scientific Officer since October 2011. He has more than 25 years of drug development experience focused on obesity, metabolic disorders, oncology, and neurodegenerative diseases. Before joining Rhythm, he was Senior Vice President of Integrative Medicine and Translational Science at Abraxis Bioscience and Head of R&D at Abraxis Health; both companies were acquired by Celgene Corporation. Prior to that, he held R&D leadership roles at Merck directing drug development programs in metabolism, oncology, and neurodegenerative diseases as Vice President, Basic Research and Site Head, Merck Boston; Site Head, Merck San Diego; and Head, Obesity Research for Merck Rahway and Banyu, Japan. Previously, Dr. Van der Ploeg was an associate professor in the Department of Genetics and Development at Columbia University. He has received numerous awards and grants for his research and has published more than 200 peer-reviewed research papers. Dr. Van der Ploeg is a named inventor on more than 50 patents and patent applications. Dr. Van der Ploeg was the Chief Scientific Officer of Motus until December 2016. He received an M.S. in Biochemistry from the University of Amsterdam and a Ph.D. in Biochemistry/Enzymology/Genetics from the University of Amsterdam/Netherlands Cancer Institute.

EXECUTIVE COMPENSATION

Summary Compensation Table

The following table sets forth information about compensation awarded or paid to our named executive officers for the 2017 and 2018 fiscal years.

Name and Principal Position	Year	Base Salary(1) (\$)	Bonus (\$)	Option Awards(2) (\$)	Non-Equity Incentive Plan Compensation(3) (\$)	All Other Compensation (\$)	Total (\$)
Keith M. Gottesdiener, M.D., <i>President and Chief Executive Officer, Director</i>	2018	\$ 505,519	—	\$ 2,756,250	\$ 278,035	—	\$ 3,539,804
	2017	\$ 490,795	—	\$ 799,994	\$ 245,398	—	\$ 1,536,187
Hunter C. Smith, <i>Chief Financial Officer</i>	2018	\$ 387,600	—	\$ 960,750	\$ 152,211	\$ 86,576	\$ 1,587,137
	2017	\$ 159,795	—	\$ 832,497	\$ 70,490	\$ 27,495	\$ 1,090,277
Lex H.T. Van der Ploeg, Ph.D., <i>Chief Scientific Officer(4)</i>	2018	\$ 383,361	—	\$ 866,250	\$ 147,594	—	\$ 1,397,205

- (1) Salaries include amounts contributed by the named executive officer to our 401(k) plan.
- (2) Amounts shown reflect the grant date fair value of options awarded during each of fiscal years 2017 and 2018, determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, *Compensation—Stock Compensation*. These amounts exclude the value of estimated forfeitures. Note that the amounts reported in this column reflect the accounting cost for these stock options, and do not correspond to the actual economic value that may be received by the named executive officers from the options. See Note 6 to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2018 regarding assumptions regarding valuation of equity awards.
- (3) Amounts shown reflect the cash performance bonus amount paid to the named executive officers for fiscal years 2017 and 2018 that was earned based on Rhythm's performance. Annual cash incentive compensation earned during the year is typically paid in the following year.
- (4) Dr. Van der Ploeg was not one of our named executive officers for the 2017 fiscal year.

Our executive compensation program is based on a pay-for-performance philosophy. The Compensation Committee designed our executive compensation program to achieve the following primary objectives: provide compensation and benefit levels that will attract, retain, motivate and reward a highly talented executive team within the context of responsible cost management; establish a direct link between our individual/team performance and results and our executives' compensation; and align the interests and objectives of our executives with those of our stockholders by linking executive equity awards to stockholder value creation. The compensation program for our executive officers is composed primarily of the following three main components: base salary, annual cash incentives and long-term equity incentives.

In 2018, as part of our annual evaluation of executive compensation, we engaged Radford, an Aon Hewitt company, or Radford, an independent executive compensation consultant, to provide advice and recommendations relating to our executive officer compensation arrangements. Radford had previously provided the Compensation Committee with guidance on executive officer compensation in 2017. Radford assisted the Compensation Committee in determining an appropriate peer group to evaluate the Company's executive officer compensation for alignment with governance and market best practices, and to provide recommendations on appropriate compensation philosophy to guide the Compensation Committee in determining executive officer compensation.

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In 2018, after discussions with Radford, our Compensation Committee revised our peer group. The revised peer group was selected based on, among other things, the following criteria: (i) publicly traded pre-commercial therapeutic/biotechnology companies, (ii) companies in the late stage of development of product and companies that are currently in the regulatory approval process, (iii) companies with market capitalizations between \$500 million and \$3.5 billion, and (iv) companies with less than 200 employees.

The following table presents the peer group selected in 2018 by the Compensation Committee following its discussions with Radford. The Compensation Committee believed when it selected this peer group that this peer group was appropriate from a strategic/stage of development and market capitalization perspective based on, among other things, the above-defined criteria.

Acceleron Pharma	Esperion Therapeutics	MyoKardia
Akebia Therapeutics	Global Blood Therapeutics	Odonate Therapeutics
Atara Biotherapeutics	GlycoMimetics	Ra Pharmaceuticals
Audentes Therapeutics	Insmed	Reata Pharmaceuticals
Biohaven Pharmaceuticals	Intra-Cellular Therapies	Syros Pharmaceuticals
Cara Therapeutics	Iovance Biotherapeutics	TG Therapeutics
ChemoCentryx	Karyopharm Therapeutics	Zogenix
Deciphera Pharmaceuticals	Minerva Neurosciences	

Base Salary

The 2018 base salaries, effective January 1, 2018, were determined for each named executive officer by the Compensation Committee, which gives consideration to each officer's experience, expertise and performance, as well as market compensation levels for similar positions.

<u>Name</u>	<u>2018 Base Salary (\$)</u>
Keith M. Gottesdiener, M.D., <i>President and Chief Executive Officer</i>	\$ 505,519
Hunter C. Smith, <i>Chief Financial Officer</i>	\$ 387,600
Lex H.T. Van der Ploeg, Ph.D., <i>Chief Scientific Officer</i>	\$ 383,361

Annual Performance-Based Incentive Opportunity

In addition to base salaries, our named executive officers are eligible to receive annual performance-based cash incentives, which are designed to motivate our executives to achieve defined annual corporate goals. The annual performance-based cash incentive each named executive officer was eligible to receive in 2018 was generally based on each named executive officer's target bonus, which may be adjusted by a weighted achievement score determined by the Compensation Committee based on overall achievement of the annual corporate goals and each named executive officer's achievement of his or her individual goals. In 2018, achievement of the corporate goals accounted for 80% of the overall adjustment to each named executive officer's target bonus for which he or she was eligible and achievement of each named executive officer's individual goals accounted for 20% of the overall adjustment to each named executive officer's target bonus. At the beginning of each year, the Compensation Committee establishes the annual corporate goals. There is no minimum bonus

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percentage or amount established for the named executive officers and, as a result, the bonus amounts vary from year to year based on corporate and individual performance.

The annual corporate goals were designed to measure our commercial growth and the development of our product candidates, including the progression and enrollment of our clinical programs, development of our product pipeline through commercial transactions, completion of a financing for aggregate gross proceeds greater than a predetermined target amount, achievement of product candidate development and regulatory milestones, and progression of our commercial capabilities through acquisitions of talent. The individual goals were designed to measure each officer's individual contribution to the corporate goals and his or her individual performance.

Pursuant to the terms of their respective agreements governing their employment relationships, in each case as described below under "Employment Agreements," the target bonuses that Dr. Gottesdiener, Mr. Smith, and Dr. Van der Ploeg were eligible to receive are determined annually by the Compensation Committee. For the year ended December 31, 2018, Dr. Gottesdiener was eligible to receive a target bonus of 50% of his base salary, Mr. Smith was eligible to receive a target bonus of 35% of his base salary, and Dr. Van der Ploeg was eligible to receive a target bonus of 35% of his base salary. After the end of 2018, the Compensation Committee reviewed overall achievement of the corporate goals and determined that each of the named executive officers was eligible to receive an achievement score of 110% of his or her target bonus. The Compensation Committee also reviewed each named executive officer's individual achievement of his or her respective individual goals and determined that Dr. Gottesdiener was eligible to receive an achievement score of 100% of his target bonus, Mr. Smith was eligible to receive an achievement score of 110% of his target bonus, and Dr. Van der Ploeg was eligible to receive an achievement score of 100% of his target bonus for 2018. Based on the weighted achievement scores, Dr. Gottesdiener received a bonus of \$278,035, Mr. Smith received a bonus of \$152,211, and Dr. Van der Ploeg received a bonus of \$147,594.

Outstanding Equity Awards at End of 2018

The following table provides information about outstanding equity awards held by each of our named executive officers at December 31, 2018.

Name	Option Awards ⁽¹⁾			
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date
Keith M. Gottesdiener, M.D.	87,047(2)(3)	37,733	\$ 4.59	11/16/2025
	48,913(2)(3)	8,339	\$ 7.52	12/30/2025
	109,056(3)(4)	109,045	\$ 6.14	4/4/2027
	32,812(5)	142,188	\$ 25.79	2/13/2028
Hunter C. Smith	65,451(6)	130,293	\$ 6.88	8/8/2027
	11,437(5)	49,563	\$ 25.79	2/13/2028
Lex H.T. Van der Ploeg, Ph.D.	24,202(2)(3)	9,269	\$ 4.59	11/16/2025
	24,932(2)(3)	5,962	\$ 7.52	12/30/2025
	22,712(3)(4)	32,718	\$ 6.14	4/4/2027
	10,312(5)	44,688	\$ 25.79	2/13/2028

- (1) Upon an option holder's termination of employment on account of the option holder's death or disability, these options expire on the first anniversary of the option holder's termination. If an option holder's employment terminates for any other reason, these options expire three months after the option holder's termination.

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- (2) These options vest in 48 equal monthly installments, starting on August 3, 2015, except that the last installment, if necessary, may be smaller.
- (3) If the option holder's employment is terminated within the three months preceding or the 12 months immediately following a change of control of us, 100% of the option holder's equity awards will become immediately exercisable.
- (4) These options vest in 48 equal monthly installments, starting on January 6, 2017, except that the last installment, if necessary, may be smaller.
- (5) These options vest in 16 equal quarterly installments, except that the last installment, if necessary, may be smaller.
- (6) 50,436 of these options vested on July 31, 2018, and the remaining options vest in 36 monthly installments, starting on August 31, 2018, except that the last installment, if necessary, may be smaller.

Pension Benefits

Our named executive officers did not participate in, or otherwise receive any benefits under, any pension or retirement plan during 2018, other than pursuant to the 401(k) plan described under "401(k) Plan."

Nonqualified Defined Contribution and Other Nonqualified Deferred Compensation

Our named executive officers did not participate in, or earn any benefits under, a nonqualified defined contribution or other nonqualified deferred compensation plan during 2018.

401(k) Plan

We maintain a tax-qualified retirement plan that provides eligible U.S. employees with an opportunity to save for retirement on a tax advantaged basis. Eligible employees are able to defer eligible compensation up to certain Code limits, which are updated annually. We have the ability to make matching and discretionary contributions to the 401(k) plan but have not done so to date. Employee contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions. Employees are immediately and fully vested in their own contributions. The 401(k) plan is intended to be qualified under Section 401(a) of the Code, with the related trust intended to be tax exempt under Section 501(a) of the Code. As a tax-qualified retirement plan, contributions to the 401(k) plan are deductible by us when made, and contributions and earnings on those amounts are not taxable to the employees until withdrawn or distributed from the 401(k) plan.

Employment Agreements

Below are written descriptions of our employment agreements with each of our named executive officers.

Agreement with Dr. Gottesdiener. Under Dr. Gottesdiener's letter agreement, he is entitled to a base salary and is eligible to receive an annual target performance bonus based on a percentage of his base salary, each as determined and may be adjusted by the Compensation Committee, and is entitled to certain severance benefits as described below.

Upon Termination without "cause" or for "good reason" within the three months immediately preceding or the 12 months immediately following a "change of control" as defined in the letter agreement, subject to customary conditions, including his execution and nonrevocation of an acceptable release, Dr. Gottesdiener, in lieu of the above benefits, will be entitled to receive a severance payment

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in an aggregate amount equal to 18 months of his base salary then in effect, paid in substantially equal installments over a period of 18 months, as applicable, in accordance with ordinary payroll practices, a payment equal to 100% of his annual target bonus for the year in which the termination occurs, and reimbursement of his COBRA premiums for up to 18 months. In addition, each unvested equity award held by Dr. Gottesdiener granted by both us or the LLC entity will immediately become fully vested.

Upon Termination without "cause" or for "good reason" unrelated to a "change of control" as defined in the letter agreement, subject to customary conditions, including his execution and nonrevocation of an acceptable release, Dr. Gottesdiener, in lieu of the above benefits, will be entitled to receive a severance payment in an aggregate amount equal to 12 months of his base salary then in effect, paid in substantially equal installments over a period of 12 months, as applicable, in accordance with ordinary payroll practices.

Agreement with Mr. Smith. Under Mr. Smith's letter agreement, he is entitled to a base salary and is eligible to receive an annual target performance bonus based on a percentage of his base salary, each as determined and may be adjusted by the Compensation Committee, and is entitled to certain severance benefits as described below.

Upon Termination without "cause" or for "good reason" within the three months immediately preceding or the 12 months immediately following a "change of control" as defined in the letter agreement, subject to customary conditions, including his execution and nonrevocation of an acceptable release, Mr. Smith, in lieu of the above benefits, will be entitled to receive a severance payment in an aggregate amount equal to 12 months of his base salary then in effect, paid in substantially equal installments over a period of 12 months, as applicable, in accordance with ordinary payroll practices, a payment equal to 100% of his annual target bonus for the year in which the termination occurs, and reimbursement of his COBRA premiums for up to 18 months. In addition, each unvested equity award held by Mr. Smith granted by us will immediately become fully vested.

Upon Termination without "cause" or for "good reason" unrelated to a "change of control" as defined in the letter agreement, subject to customary conditions, including his execution and nonrevocation of an acceptable release, Mr. Smith, in lieu of the above benefits, will be entitled to receive a severance payment in an aggregate amount equal to 9 months of his base salary then in effect, paid in substantially equal installments over a period of 9 months, in accordance with ordinary payroll practices.

Agreement with Dr. Van der Ploeg. Under Dr. Van der Ploeg's letter agreement, he is entitled to a base salary and is eligible to receive an annual target performance bonus based on a percentage of his base salary, each as determined and may be adjusted by the Compensation Committee, and is entitled to certain severance benefits as described below.

Upon Termination without "cause" or for "good reason", within the three months immediately preceding or the 12 months immediately following a "change of control" as defined in the letter agreement, subject to customary conditions, including his execution and nonrevocation of an acceptable release, Dr. Van der Ploeg, in lieu of the above benefits, will be entitled to receive a severance payment in an aggregate amount equal to 12 months of his base salary then in effect, paid in substantially equal installments over a period of 12 months in accordance with ordinary payroll practices, and a payment equal to 100% of his annual target bonus for the year in which the termination occurs. In addition, each unvested equity award held by Dr. Van der Ploeg granted by us will immediately become fully vested.

Upon Termination without "cause" or for "good reason" unrelated to a "change of control" as defined in the letter agreement, subject to customary conditions, including his execution and nonrevocation of an acceptable release, Dr. Van der Ploeg, in lieu of the above benefits, will be entitled to receive a severance payment in an aggregate amount equal to 9 months of his base salary then in

effect, paid in substantially equal installments over a period of 9 months, in accordance with ordinary payroll practices.

Compensation Consultant

In connection with our executive compensation review, in 2018 our Compensation Committee engaged Radford to provide our Compensation Committee guidance with respect to the development and implementation of our compensation programs.

Our Compensation Committee charter requires that its compensation consultant be independent of Rhythm management. During 2018, Radford did not provide services to us other than the services described in this Proxy Statement. Our Compensation Committee has determined that Radford is independent and that its work does not raise any conflict of interest.

AUDIT COMMITTEE REPORT

The report of the Audit Committee is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934, both as amended.

The Audit Committee has reviewed Rhythm's audited consolidated financial statements for the year ended December 31, 2018 and has discussed these statements with management and Ernst & Young LLP, or Ernst & Young, the Company's independent registered public accounting firm. Rhythm management is responsible for the preparation of the Company's financial statements and for maintaining an adequate system of disclosure controls and procedures and internal control over financial reporting for that purpose. The independent registered public accounting firm audits the annual consolidated financial statements prepared by management, expresses an opinion as to whether those consolidated financial statements present fairly the consolidated financial position, results of operations and cash flows of Rhythm in conformity with U.S. generally accepted accounting principles and discusses any issues they believe should be raised with us. The Audit Committee is responsible for providing independent, objective oversight of the Company's accounting functions and internal controls.

The Audit Committee also received from, and discussed with, Ernst & Young the written disclosures and other communications that the Company's independent registered public accounting firm is required to provide to the Audit Committee, including the matters required to be discussed by Statement on Auditing Standards No. 1301, as amended (Communication with Audit Committees), as adopted by the Public Company Accounting Oversight Board, or PCAOB, in Rule 3200T.

Ernst & Young also provided the Audit Committee with the written disclosures and the letter required by the PCAOB requiring independent registered public accounting firms to annually disclose in writing all relationships that, in their professional opinion may reasonably be thought to bear on independence, to confirm their perceived independence and to engage in a discussion of independence. The Audit Committee has reviewed this disclosure and has discussed with Ernst & Young their independence from Rhythm.

Based on its discussions with management and our independent registered public accounting firm as outlined above, and its review of the representations and information provided by management and our independent registered public accounting firm, the Audit Committee recommended to the Board that the audited consolidated financial statements be included in the Rhythm Annual Report on Form 10-K for the year ended December 31, 2018, for filing with the Securities and Exchange Commission.

Respectfully submitted by the Audit Committee,

David W.J. McGirr, *Chair*
Christophe R. Jean
David P. Meeker

**PROPOSAL NO. 2—RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED
PUBLIC ACCOUNTING FIRM**

We are asking our stockholders to ratify the Audit Committee's selection of Ernst & Young LLP, or Ernst & Young, as our independent registered public accounting firm for the fiscal year ending December 31, 2019. Ernst & Young has served as our independent registered public accounting firm since 2015.

The Audit Committee annually reviews the independent registered public accounting firm's independence, including reviewing all relationships between the independent registered public accounting firm and us and any disclosed relationships or services that may impact the objectivity and independence of the independent registered public accounting firm, and the independent registered public accounting firm's performance.

Although stockholder ratification is not required by our bylaws or otherwise, the Board believes it is advisable to provide stockholders an opportunity to ratify this selection and is submitting the selection of Ernst & Young to our stockholders for ratification as a matter of good corporate practice. If the selection is not ratified, the Audit Committee will consider whether it is appropriate to select another independent registered public accounting firm, but is not required to do so. Even if the selection is ratified, the Audit Committee in its discretion may select a different registered public accounting firm at any time during the year if the Audit Committee determines that such a change would be in the best interests of Rhythm and its stockholders.

We expect that a representative of Ernst & Young will attend the 2019 Annual Meeting and will have an opportunity to make a statement if he or she so chooses and will be available to respond to appropriate questions from stockholders.

Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accounting Firm

The Audit Committee pre-approves all auditing services, and permitted non-audit services (including the fees and terms thereof) to be performed by Ernst & Young, subject to the de minimis exception for non-audit services that are approved by the Audit Committee prior to the completion of an audit. The Audit Committee may delegate pre-approval authority to one or more members of the Audit Committee consistent with applicable law and listing standards, provided that the decisions of such Audit Committee member or members must be presented to the full Audit Committee at its next scheduled meeting.

Principal Accountant Fees and Services

We regularly review the services and fees of our independent accountants. These services and fees are also reviewed by the Audit Committee on an annual basis. The aggregate fees billed for the fiscal years ended December 31, 2018 and 2017 for each of the following categories of services are as follows:

<u>Fee Category</u>	<u>2017</u>	<u>2018</u>
Audit Fees	\$ 823,330	\$ 534,000
Audited Related Fees	—	—
Tax Fees	\$ 20,000	\$ 35,400
All Other Fees	—	—
Total Fees	<u>\$ 843,330</u>	<u>\$ 569,400</u>

Audit Fees. Consist of aggregate fees for professional services provided in connection with the annual audit of our consolidated financial statements, the review of our quarterly condensed

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consolidated financial statements, consultations on accounting matters directly related to the audit, and comfort letters, consents and assistance with and review of documents filed with the SEC.

Audit-Related Fees. Consist of aggregate fees for accounting consultations and other services that were reasonably related to the performance of audits or reviews of our consolidated financial statements and were not reported above under "Audit Fees."

Tax Fees. Consist of aggregate fees for tax compliance, tax advice and tax planning services including the review and preparation of our federal and state income tax returns.

All Other Fees. Consist of aggregate fees billed for products and services provided by the independent registered public accounting firm other than those fees disclosed above.

The Audit Committee pre-approved all services performed since the pre-approval policy was adopted.

The affirmative vote of a majority of shares of our common stock, present in person or represented by proxy at the 2019 Annual Meeting and entitled to vote, is required to ratify the selection of our independent auditors.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" THE RATIFICATION OF THE APPOINTMENT OF ERNST & YOUNG AS THE COMPANY'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM.

(PROPOSAL NO. 2 ON YOUR PROXY CARD)

BENEFICIAL OWNERSHIP OF COMMON STOCK

The following table sets forth certain information as of March 31, 2019 (unless otherwise specified), with respect to the beneficial ownership of our common stock by each person who is known to own beneficially more than 5% of the outstanding shares of common stock, each person currently serving as a director, each nominee for director, each named executive officer (as set forth in the Summary Compensation Table below), and all directors and executive officers as a group).

Shares of common stock subject to options or other rights to purchase which are now exercisable or are exercisable within 60 days after March 31, 2019, are to be considered outstanding for purposes of computing the number of shares beneficially owned and the percentage ownership of the persons holding these options or other rights, but are not to be considered outstanding for the purpose of computing the number of shares beneficially owned or the percentage ownership of any other person. As of March 31, 2019, there were 34,430,641 shares of common stock outstanding. Unless otherwise indicated, the address for each beneficial owner is c/o Rhythm Pharmaceuticals, Inc., 500 Boylston Street, 11th Floor, Boston, MA 02116.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned†	Percentage of Shares Beneficially Owned
5% Stockholders:		
New Enterprise Associates 13, L.P.(1) 1954 Greenspring Drive, Suite 600 Timonium, MD 21093	4,912,306	14.27%
Janus Capital Management LLC and Janus Capital International Limited(2) 201 Bishopsgate EC2M 3AE United Kingdom	3,263,175	9.48%
MPM BioVentures V, L.P. and MPM Asset Management Investors BV5 LLC(3) 450 Kendall Street Cambridge, MA 02142	3,074,893	8.93%
Third Rock Ventures, L.P.(4) 29 Newbury Street Boston, MA 02116	2,981,437	8.66%
667, L.P. and Baker Brothers Life Sciences, L.P.(5) 860 Washington Street, 3rd Floor New York, NY 10014	2,708,200	7.87%
RA Capital Healthcare Fund, L.P.(6) 20 Park Plaza, Suite 1200 Boston, MA 02116	1,950,332	5.66%
Directors and Named Executive Officers:		
Keith M. Gottesdiener(7)	875,732	2.52%
Hunter C. Smith(8)	111,700	*
Lex H.T. Van der Ploeg(9)	153,432	*
Todd Foley	—	—
Ed Mathers	—	—
Neil Exter(10)	18,947	*
Jennifer Good(11)	—	—
Christophe R. Jean	—	—
David P. Meeker(12)	188,576	*
David W.J. McGirr(13)	79,971	*
All executive officers and directors as a group (12 persons)(14)	1,569,759	4.45%

* Represents beneficial ownership of less than 1%.

† None of the shares are pledged as security.

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- (1) Based solely on a Schedule 13D filed on October 13, 2017, the shares held directly by New Enterprise Associates 13, L.P., or NEA 13, are indirectly held by NEA Partners 13, L.P., or Partners 13, which is the sole general partner of NEA 13; NEA 13 GP, LTD, or NEA 13 LTD, which is the sole general partner of Partners 13; and each of the individual directors of NEA 13 LTD. The individual Directors of NEA 13 LTD, or the NEA 13 Directors, are M. James Barrett, Peter J. Barris, Forest Baskett, Patrick J. Kerins, David M. Mott, Scott D. Sandell and Ravi Viswanathan. NEA Partners 13, NEA 13 LTD, and the NEA 13 Directors share voting and dispositive power with regard to the shares owned directly by NEA 13. All indirect holders of the above referenced shares disclaim beneficial ownership of the shares except to the extent of their actual pecuniary interest therein.
- (2) Based solely on a Schedule 13G filed on February 12, 2019, Janus Henderson Group plc, or Janus Henderson, has a 100% ownership stake in Janus Capital Management LLC, or Janus Capital, and Janus Capital International Limited, or JCIL. Janus Capital and JCIL are each investment advisors furnishing investment advice to various fund, individual, and institutional clients, or the Managed Portfolios, and may be deemed to be the beneficial owners of the shares held by the Managed Portfolios. Janus Capital and JCIL each disclaims any ownership associated with the right to receive any dividend from, or the proceeds from the sale of, the securities held by the Managed Portfolios.
- (3) Based solely on a Schedule 13D filed on February 12, 2019, MPM BioVentures V LLC is the Managing Member of MPM BioVentures V GP LLC, which is the General Partner of MPM BioVentures V, L.P. Todd Foley, one of our directors, is a Member of MPM BioVentures V LLC and shares the power to vote, hold and dispose of the shares held by MPM BioVentures V, L.P. Mr. Foley, Luke Evnin and Ansbart Gadick are the members of MPM Asset Management Investors BV5 LLC and share the power to vote, hold and dispose of the shares held by MPM Asset Management Investors BV5 LLC. Mr. Foley, Mr. Evnin and Mr. Gadick each disclaims beneficial ownership of the securities reported herein except to the extent of their respective pecuniary interest therein.
- (4) Based solely on a Schedule 13G filed on February 13, 2019, each of Third Rock Ventures GP, L.P., or TRV GP, the general partner of Third Rock Ventures, L.P., or TRV LP, and TRV GP, LLC, or TRV LLC, the general partner of TRV GP, and Mark Levin, Kevin Starr and Robert Tepper, the managing members of TRV LLC, may be deemed to share voting and investment power over the shares held by TRV LP. Each of the reporting persons disclaims beneficial ownership of such shares, except to the extent of their proportionate pecuniary interest therein, if any.
- (5) Based solely on a Schedule 13G filed on February 13, 2019, Baker Bros. Advisors LP, or Baker Bros. Advisors, is the investment adviser to 667, L.P., or 667 LP, and Baker Brothers Life Sciences, L.P., or Baker Brothers Life Sciences, and, pursuant to amended and restated management agreements between Baker Bros. Advisors, 667 LP and Baker Brothers Life Sciences and the respective general partners of 667 LP and Baker Brother Life Sciences, Baker Bros. Advisors has complete and unlimited discretion and authority with respect to the investments and voting power over investments of 667 LP and Baker Brothers Life Sciences. Baker Bros. Advisors (GP) LLC, or Advisors GP, is the general partner of Advisors. Advisors GP, Felix J. Baker and Julian C. Baker as managing members of Advisors GP, and Advisors, disclaim beneficial ownership of all shares held by 667 LP and Baker Brothers Life Sciences except to the extent of any pecuniary interest therein.
- (6) Based solely on a Schedule 13G filed on February 14, 2019, RA Capital Management, LLC, or Capital, is the general partner of RA Capital Healthcare Fund, L.P., or RAC Healthcare. Peter Kolchinsky is the manager of Capital and RAC Healthcare has delegated to Capital the sole power to vote and dispose of all securities held by RAC Healthcare. RAC Healthcare and Mr. Kolchinsky each disclaim beneficial ownership of all shares held by RAC Healthcare except to the extent of any pecuniary interest therein.
- (7) Consists of (i) 506,342 shares of common stock and (ii) includes 369,390 shares of common stock underlying options that are exercisable within 60 days of March 31, 2019.

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- (8) Consists of (i) 6,000 shares of common stock and (ii) includes 105,700 shares of common stock underlying options that are exercisable within 60 days of March 31, 2019.
- (9) Consists of (i) 42,339 shares of common stock and (ii) includes 111,093 shares of common stock underlying options that are exercisable within 60 days of March 31, 2019.
- (10) Consists of 18,947 shares of common stock. Neil Exter has declined to stand for re-election at the 2019 Annual Meeting.
- (11) Jennifer Good is a director nominee for election at the 2019 Annual Meeting.
- (12) Consists of (i) 101,335 shares of common stock and (ii) includes 87,241 shares of common stock underlying options that are exercisable within 60 days of March 31, 2019.
- (13) Includes 79,971 shares of common stock underlying options that are exercisable within 60 days of March 31, 2019.
- (14) Consists of (i) 690,092 shares of common stock and (ii) includes 879,667 shares of common stock underlying options that are exercisable within 60 days of March 31, 2018.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Related Party Transactions Policy

Our Board has adopted a policy that our executive officers, directors, nominees for election as a director, beneficial owners of more than 5% of any class of our common stock and any members of the immediate family of any of the foregoing persons are not permitted to enter into a related person transaction with us without the prior review and approval of our Governance and Nominating Committee. Any request for us to enter into a transaction with an executive officer, director, nominee for election as a director, beneficial owner of more than 5% of any class of our common stock or any member of the immediate family of any of the foregoing persons in which the amount involved exceeds \$120,000 and such person would have a direct or indirect material interest must first be presented to our Governance and Nominating Committee for review, consideration and approval. In approving or rejecting any such proposal, our Governance and Nominating Committee is to consider the material facts of the transaction, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person's interest in the transaction.

During 2018, we were not a party to any transactions or series of similar transactions, in which:

- the amounts involved exceeded or will exceed \$120,000; and
- any of the directors, executive officers or holders of more than 5% of our voting equity, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

Compensation arrangements for our directors and named executive officers are described elsewhere in this Proxy Statement.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our executive officers and directors and persons who own more than 10% of a registered class of our equity securities to file initial reports of ownership and reports of changes in ownership with the SEC. Such persons are required by regulation of the SEC to furnish us with copies of all Section 16(a) forms they file. Based solely on our review of the copies of such forms or written representations from certain reporting persons received by us with respect to fiscal year 2018, our directors, officers and stockholders who own more than 10% of a registered class of our equity securities complied with all applicable filing requirements during the fiscal year ended December 31, 2018.

GENERAL MATTERS

Availability of Certain Documents

A copy of our 2018 Annual Report on Form 10-K has been posted on our website along with this Proxy Statement at www.edocumentview.com/RYTM or www.rhythmtx.com under "Investors & Media" at "SEC Filings." We will mail without charge, upon written request, a copy of our 2018 Annual Report on Form 10-K excluding exhibits. Please send a written request to our Secretary at:

Rhythm Pharmaceuticals, Inc.
500 Boylston Street, 11th Floor
Boston, MA 02116
Attention: Secretary

You may also find a copy of this Proxy Statement and our 2018 Annual Report on Form 10-K (with exhibits) on the SEC website at www.sec.gov.

Stockholders Sharing an Address / Household

Only one copy of our 2018 Annual Report on Form 10-K and this Proxy Statement is being delivered to multiple stockholders sharing an address, unless we have received contrary instructions from one or more of the stockholders.

We will undertake to deliver promptly, upon written or oral request, a separate copy to a stockholder at a shared address to which a single copy of the 2018 Annual Report on Form 10-K and this Proxy Statement was delivered. To receive a separate copy of our 2018 Annual Report on Form 10-K or Proxy Statement, or to receive separate copies in the future, or if two stockholders sharing an address have received two copies of any of these documents and desire to only receive one, you may write the Secretary of Rhythm Pharmaceuticals, Inc. at our principal executive offices at 500 Boylston Street, 11th Floor, Boston, MA 02116 or call the Secretary at (617) 951-8901.

Stockholder Proposals and Nominations

Requirements for Stockholder Proposals to be Considered for Inclusion in our Proxy Materials. Under Rule 14a-8 of the Exchange Act, to submit a proposal for inclusion in our Proxy Statement for the 2020 Annual Meeting, stockholder proposals must be received no later than close of business on January 1, 2020, by our Secretary at our principal executive offices at 500 Boylston Street, 11th Floor, Boston, MA 02116.

Requirements for Stockholder to bring Business and Nominations Before an Annual Meeting. Our bylaws provide that, for stockholder nominations to the Board or other business to be considered at the 2020 Annual Meeting, the stockholder must have given timely notice thereof in writing to the Secretary at Rhythm Pharmaceuticals, Inc., 500 Boylston Street, 11th Floor, Boston, MA 02116 between February 20, 2020 and March 21, 2020 (assuming the date of our 2020 Annual Meeting is not so advanced or delayed as described in our bylaws). To be timely for the 2020 Annual Meeting, the stockholder's notice must be delivered to or mailed and received by us not earlier than the close of business on the 120th day nor later than the close of business on the 90th day prior to the anniversary date of the previous year's annual meeting, except that if the annual meeting is scheduled more than 30 days before or 60 days after such anniversary date, we must receive the notice not later than the close of business on the 10th day following the day on which we first provide notice or public disclosure of the date of the meeting. Such notice must provide the information required by Section 2.12 of the bylaws with respect to each nomination or matter the stockholder proposes to bring before the 2020 Annual Meeting.

Other Matters

As of the date of this Proxy Statement, the Board does not intend to present any matters other than those described herein at the 2019 Annual Meeting and is unaware of any matters to be presented by other parties. If other matters are properly brought before the meeting for action by the stockholders, proxies will be voted in accordance with the recommendation of the Board or, in the absence of such a recommendation, in accordance with the judgment of the proxy holder.

By Order of the Board of Directors

/s/ KEITH M. GOTTESDIENER

Keith M. Gottesdiener
Chief Executive Officer, President, and Director
April 30, 2019



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MR A SAMPLE
DESIGNATION (IF ANY)
ADD 1
ADD 2
ADD 3
ADD 4
ADD 5
ADD 6

Using a black ink pen, mark your votes with an X as shown in this example.
Please do not write outside the designated areas.



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Your vote matters – here's how to vote!

You may vote online or by phone instead of mailing this card.



Votes submitted electronically must be
received by 1:00am, (EST), on June 18, 2019

**Online**

Go to www.investorvote.com/RVTM or scan
the QR code – login details are located in
the shaded bar below.

**Phone**

Call toll free 1-800-652-VOTE (8683) within
the USA, US territories and Canada

**Save paper, time and money!**

Sign up for electronic delivery at
www.investorvote.com/RVTM

2019 Annual Meeting Proxy Card

1234 5678 9012 345

▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

A Proposals – The Board of Directors recommend a vote FOR all the nominees listed and FOR Proposals 2.**1. Election of Directors:**

	For	Withhold	Abstain		For	Withhold	Abstain		For	Withhold	Abstain
01 - Jennifer Good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	02 - Todd Foley	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03 - Ed Mathers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2. Ratification of the appointment of Ernst & Young LLP as independent registered public accounting firm for the fiscal year ended December 31, 2019.**

For	Against	Abstain
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B Authorized Signatures – This section must be completed for your vote to count. Please date and sign below.

Please sign exactly as name(s) appears hereon. Joint owners should each sign. When signing as attorney, executor, administrator, corporate officer, trustee, guardian, or custodian, please give full title.

Date (mm/dd/yyyy) – Please print date below.

Signature 1 – Please keep signature within the box.

Signature 2 – Please keep signature within the box.



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140 CHARACTERS) MR A SAMPLE AND MR A SAMPLE AND
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2019 Annual Meeting Admission Ticket

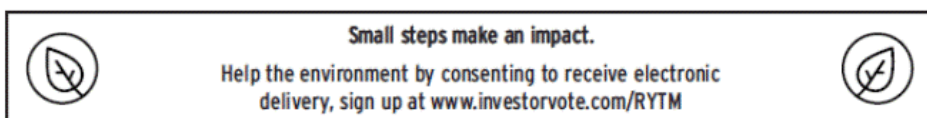
2019 Annual Meeting of Rhythm Pharmaceuticals, Inc. Stockholders

Wednesday, June 19, 2:00 PM Eastern Time
Offices of Morgan, Lewis & Bockius LLP
One Federal Street, Boston, MA 02110

Upon arrival, please present this admission ticket and photo identification at the registration desk.

If you plan to attend the annual meeting in person, please bring this admission ticket with you. This ticket admits the stockholder. All meeting attendees must present valid government-issued identification. For your safety, all personal belongings or effect including bags, purses, and briefcases are subject to inspection. With the exception of purses and notepads, no personal items such as briefcases or bags, of any type, may be carried into the meeting area. The use of photographic and recording devices is prohibited in the building. Cell phone use is permitted only outdoors. The meeting location is accessible to disabled persons. Space is limited, and stockholders will be admitted on a first-come, first-served basis.

Important notice regarding the Internet availability of proxy materials for the Annual Meeting of Stockholders.
The material is available at: www.investorvote.com/RVTM



▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

Rhythm Pharmaceuticals, Inc.



Notice of 2019 Annual Meeting of Stockholders

Proxy Solicited by Board of Directors for Annual Meeting – June 19, 2019

Hunter Smith and Julio Vega, or any of them, each with the power of substitution, are hereby authorized to represent and vote the shares of the undersigned, with all the powers which the undersigned would possess if personally present, at the Annual Meeting of Stockholders of Rhythm Pharmaceuticals, Inc. to be held on June 19, 2019 or at any postponement or adjournment thereof.

Shares represented by this proxy will be voted by the stockholder. If no such directions are indicated, the Proxies will have authority to vote FOR the election of the Board of Directors and FOR item 2.

In their discretion, the Proxies are authorized to vote upon such other business as may properly come before the meeting.

(Items to be voted appear on reverse side)

C Non-Voting Items

Change of Address – Please print new address below.

Comments – Please print your comments below.





Using a black ink pen, mark your votes with an X as shown in this example.
Please do not write outside the designated areas.



2019 Annual Meeting Proxy Card

▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

A Proposals – The Board of Directors recommend a vote FOR all the nominees listed and FOR Proposals 2.

1. Election of Directors:

	For	Withhold	Abstain		For	Withhold	Abstain		For	Withhold	Abstain
01 - Jennifer Good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	02 - Todd Foley	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03 - Ed Mathers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



2. Ratification of the appointment of Ernst & Young LLP as independent registered public accounting firm for the fiscal year ended December 31, 2019.

For	Against	Abstain
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B Authorized Signatures – This section must be completed for your vote to count. Please date and sign below.

Please sign exactly as name(s) appears herein. Joint owners should each sign. When signing as attorney, executor, administrator, corporate officer, trustee, guardian, or custodian, please give full title.

Date (mm/dd/yyyy) – Please print date below.

Signature 1 – Please keep signature within the box.

Signature 2 – Please keep signature within the box.



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Important notice regarding the Internet availability of proxy materials for the Annual Meeting of Stockholders.
The material is available at: www.investorvote.com/RYT

▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

Rhythm Pharmaceuticals, Inc.

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(Items to be voted appear on reverse side)