

# MAST THERAPEUTICS, INC.

## COMPENSATION COMMITTEE CHARTER

### *Purpose*

The purpose of the Compensation Committee (the “Committee”) is to assist the board of directors (the “Board”) of Mast Therapeutics, Inc. (the “Company”) in the discharge of its responsibilities with respect to the compensation of the Company’s officers and non-employee directors and administration of the Company’s equity-based compensation plans.

### *Membership*

The Committee will be comprised of at least two members of the Board. Such members will be elected by and serve at the discretion of the Board. Each Committee member will serve on the Committee during his or her respective term as a Board member, subject to earlier removal by a majority vote of the Board. Unless a chair is elected by the Board, the members of the Committee may designate a chair by vote of the Committee.

As long as the Company’s common stock remains listed on a national securities exchange, each member of the Committee shall (1) qualify as an “independent director” as defined in the listing standards of the NYSE MKT or such other national securities exchange or inter-dealer quotation system on which the Company’s common stock is then principally listed (the “Applicable Listing Standards”), (2) unless the Company is a “Smaller Reporting Company” (as such term is defined in Rule 12b-2 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)), satisfy any additional more stringent requirements applicable to the members of the Committee under the Applicable Listing Standards, and (3) qualify as a “non-employee director” under Rule 16b-3(b)(3)(i) promulgated under the Exchange Act. In addition, to the extent the Board has at least two members who qualify as an “outside director” under the rules promulgated under Section 162(m) of the Internal Revenue Code of 1986 (the “Code”), at least two members of the Committee shall be outside directors. Notwithstanding clause (1) above, if the Committee is comprised of at least three members, one director who is not an “independent director” under the Applicable Listing Standards and who is not a current officer or employee of the Company or an “immediate family member” (as such term is defined in the Applicable Listing Standards) of a current officer or employee of the Company, may serve on the Committee pursuant and subject to the limitations of the “exceptional and limited circumstances” exception provided in the Applicable Listing Standards; provided that such director meets the other membership standards set forth in this Charter.

For the avoidance of doubt, if the Company is a Smaller Reporting Company and for so long as permitted by the Applicable Listing Standards, members of the Committee are not required to satisfy any additional more stringent requirements applicable to the members of compensation committees.

In accordance with the bylaws of the Company, the Committee may act by unanimous written consent.

## ***Responsibilities and Authority***

The approval of this Charter by the Board shall be construed as a delegation of authority to the Committee with respect to the responsibilities set forth herein and all of the ancillary powers necessary to assume and perform such responsibilities and duties. A non-exclusive list of specific authority delegated to the Committee is set forth below. This description of authority is intended as a guide and the Committee may act and establish policies and procedures that are consistent with these guidelines or are necessary or advisable, in its discretion, to carry out the intent of the Board in delegating such authority and to fulfill the responsibilities of the Committee hereunder. The Board reserves to itself all authority delegated hereunder to the Committee. This reservation of authority does not in any way limit the Committee's authority to act definitively on matters delegated to it hereunder. Notwithstanding the above, the Board reserves the right at any time to revoke or change the authority delegated hereunder.

1. The Committee shall recommend to the Board for determination and approval the amount, form and terms of compensation of the Company's Chief Executive Officer and other "officers" of the Company (as such term is defined in the Applicable Listing Standards). The Committee will review, at least annually, the performance of the Chief Executive Officer and such other officers, including in light of goals and objectives established for such performance, and in light of such review determine the amount, form and terms of their respective compensation. The Chief Executive Officer may not be present during the voting or deliberations regarding his or her compensation.

2. The Committee shall review and make recommendations to the Board regarding the Company's overall compensation strategy and policies.

3. The Committee shall review and make recommendations to the Board regarding the adoption, amendment and termination of equity and/or cash incentive plans and other benefit plans (including stock purchase plans, pension and profit sharing plans, deferred compensation plans, and similar programs). To the extent as may be permitted or required under such plans, the Committee shall have full power and authority to administer any such plans, establish guidelines, interpret plan documents, select participants, approve grants and awards, and exercise such other power and authority. For the avoidance of doubt, and unless otherwise restricted by the Board, the Committee's powers and authority described in the preceding sentence shall include, without limitation, the power and authority to grant equity awards to non-officer employees and consultants in accordance with the terms of the Company's applicable equity incentive plan. The Committee shall also have full power and authority to establish the Company's compensation policies and practices applicable to non-officer employees and to implement and administer, or direct the Company to implement and administer, plans and arrangements established pursuant to such policies and practices. The Committee may delegate its authority to administer, establish guidelines for, and interpret pension and profit sharing plans, deferred compensation plans, and similar programs, as well as its authority to determine the compensation of the Company's non-officer employees to the Company's officers and other appropriate Company supervisory personnel; provided, however, that in the case of equity compensation, such delegation of its authority is in accordance with Section 6 below.

4. The Committee will periodically review and evaluate the compensation of the Company's non-employee directors for their service on the Board and make recommendations to the Board regarding the amount, form and terms of such compensation.

5.

(a) Subject to Section 5(b) below, the Committee may, in its sole discretion, select, retain, obtain the advice of, engage, compensate and terminate compensation consultants, legal counsel and such other advisors (collectively, "Advisors") as it deems necessary and advisable to assist the Committee in carrying out its responsibilities and functions as set forth herein. The Committee shall be directly responsible for the appointment, compensation and oversight of the work of any Advisors retained by the Committee. The Company must provide for appropriate funding, as determined by the Committee, for payment of reasonable compensation to any Advisor retained by the Committee and related expenses approved by the Committee.

(b) To the extent required by the Applicable Listing Standards, before selecting or receiving advice from an Advisor, the Committee shall conduct an independence assessment of such Advisor, taking into consideration all relevant factors, including the following:

(i) The provision of other services to the Company by the person that employs the Advisor;

(ii) The amount of fees received from the Company by the person that employs the Advisor, as a percentage of the total revenue of the person that employs the Advisor;

(iii) The policies and procedures of the person that employs the Advisor that are designed to prevent conflicts of interest;

(iv) Any business or personal relationship of the Advisor with a member of the Committee;

(v) Any stock of the Company owned by the Advisor; and

(vi) Any business or personal relationship of the Advisor or the person employing the Advisor with an executive officer of the Company.

The Committee is not required to conduct the independence assessment outlined above with respect to: (A) in-house legal counsel or (B) any Advisor whose role is limited to the following activities for which no disclosure would be required under Item 407(e)(3)(iii) of Regulation S-K: (1) consulting on any broad-based plan that does not discriminate in scope, terms, or operation, in favor of executive officers or directors of the Company, and that is available generally to all salaried employees; or (2) providing information that either is not customized for a particular company or that is customized based on parameters that are not developed by the Advisor, and about which the Advisor does not provide advice.

For the avoidance of doubt, nothing herein requires an Advisor to be independent, only that the Committee considers the independence factors set forth in Sections 5(b)(i) through 5(b)(vi) before selecting or receiving advice from an Advisor. The Committee may select or receive advice from any Advisor it prefers including ones that are not independent, after considering the independence factors set forth in Sections 5(b)(i) through 5(b)(vi).

Also for the avoidance of doubt, the Committee is not required to conduct the independence assessment outlined above if the Applicable Listing Standards do not require it. For example, if the Company is a Smaller Reporting Company, the Applicable Listing Standards may not require that the Committee to conduct the independence assessment.

(c) With regard to any compensation consultant identified in response to Item 407(e)(3)(iii) of Regulation S-K, the Committee shall assess whether the work of such compensation consultant has raised any conflict of interest, taking into consideration all relevant factors, including the factors listed in Rule 10C-1(b)(4)(i) through (vi) under the Exchange Act.

(d) To the extent required by Section 5(b) and Section 5(c) above, as applicable, the assessments described in Section 5(b) and Section 5(c) above shall be conducted at least annually.

6. To the extent permitted by applicable law and regulations (including Applicable Listing Standards), the Committee may delegate to a subcommittee, including a subcommittee composed of one or more members of the Board, or to one or more officers of the Company (or other appropriate supervisory personnel) its authority to grant stock options, stock appreciation rights, restricted stock units and performance units to qualified persons who are not officers (as defined in Applicable Listing Standards) or members of the Board; provided, however, that (a) the number of shares of the Company's common stock underlying such options and other awards are consistent with guidelines approved by the Committee or the Board; (b) the per-share exercise or purchase price of such awards equals the fair market value of the common stock on the date of grant; and (c) the vesting and other terms that apply to such awards are the same terms as apply under the Company's standard form of agreement under the applicable equity compensation plan, provided that such subcommittee or officer(s) may, in such subcommittee's or officer(s)' discretion, grant awards that are fully vested on the date of grant of the award or grant awards with more restrictive vesting requirements if such vesting terms are consistent with guidelines approved by the Committee or the Board.

7. To the extent a Committee report on executive compensation is required by the rules and regulations of the Securities and Exchange Commission ("SEC") to be included in the Company's annual report on Form 10-K or proxy statement or any other filing with the SEC, the Committee shall oversee the preparation of and review such Committee report.

8. To the extent a Compensation Discussion and Analysis ("CD&A") is required by the rules and regulations of the SEC to be included in the Company's annual report on Form 10-K or proxy statement or any other filing with the SEC (or, if not required, if the Company elects to provide such report or CD&A), the Committee shall review and discuss with management the Company's disclosures contained in the CD&A and make recommendations to the Board that the CD&A be approved for inclusion in the Company's filings with the SEC.

9. The Committee will evaluate, at least annually, the relationship between the compensation policies and practices applicable to the Company's executive officers and corporate risk management to confirm those policies and practices do not incentivize excessive risk-taking.

10. The Committee will make regular reports to the Board with respect to significant actions and determinations made by the Committee. The Committee will receive regular reports from any subcommittee or individual to whom it delegates authority under Section 6 above.

11. The Committee will review and assess its performance annually and ensure the results of each such self-evaluation are communicated to the Board.

12. The Committee will review and reassess this Charter annually, and make recommendations to the Board with regard to appropriate changes, if any, to this Charter.

13. The Committee has the authority to perform such other activities and functions as are required by law, Applicable Listing Standards or provisions in the Company's charter documents, or as are otherwise necessary and advisable, in its or the Board's discretion, to the efficient discharge of its duties hereunder, including without limitation oversight of corporate controls and procedures related to compensation matters and other matters generally related to the executive officers' ownership of Company securities.

### ***Reports***

The Committee will record its actions and determinations in written form. These records will be incorporated as a part of the minutes and actions of the Board.

*Last amended: January 19, 2016*