

MAST THERAPEUTICS, INC.
AUDIT COMMITTEE CHARTER

Purpose

The primary purpose of the Audit Committee (the “Committee”) of the board of directors (the “Board”) of Mast Therapeutics, Inc. (the “Company”) is to oversee the accounting and financial reporting processes of the Company, including its internal controls system, and audits of its financial statements. Notwithstanding the foregoing, however, the Committee is not responsible for planning or conducting audits, determining whether the Company’s financial statements are complete and accurate or in accordance with generally accepted accounting principles, or determining whether the Company’s internal control over financial reporting is effective.

Composition

The Committee shall be comprised of at least three directors determined by the Board to satisfy the independence requirements of Rule 10A-3 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the director and audit committee independence and financial literacy requirements of the NYSE MKT LLC or such other national securities exchange or inter-dealer quotation system on which the Company’s common stock is principally listed (the “Principal Exchange”). No member of the Committee can have participated in the preparation of the financial statements of the Company or any subsidiary of the Company at any time during the past three years. At least one member of the Committee must qualify as “financially sophisticated” as required by the listing standards of the Principal Exchange, as determined by the Board. Any director who the Board determines qualifies as an “audit committee financial expert,” as that term is defined in Item 407(d)(5)(ii) of Regulation S-K, shall be presumed to qualify as financially sophisticated. If the Committee is comprised of at least three members, one director who is not an “independent director,” as that term is defined in the listing standards of the Principal Exchange, but who satisfies the independence requirements of Rule 10A-3 under the Exchange Act and who is not a current officer or employee of the Company (or any subsidiary of the Company) or an immediate family member of such officer or employee, may serve on the Committee pursuant and subject to the limitations of the “exceptional and limited circumstances” exception (or similar exception) provided in the listing standards of the Principal Exchange.

Notwithstanding the foregoing, if the Company is a “smaller reporting company,” as that term is defined in Rule 12b-2 under the Exchange Act, the Committee may be comprised of two members, each of whom must be an “independent director,” as that term is defined in the listing standards of the Principal Exchange, and satisfy the independence requirements of Rule 10A-3 under the Exchange Act.

The Board shall appoint the members of the Committee, and may remove a Committee member at any time. The chair of the Committee shall be appointed by the Board or, if it does not do so, the Committee.

Responsibilities

The Committee is charged by the Board with the responsibility to:

1. Appoint and provide for the compensation of the independent registered public accounting firm to be engaged by the Company to prepare and issue an audit report and perform other audit, review or attest services for the Company. The independent auditors must report directly to the Committee. The Committee shall oversee the work of the independent auditor (including resolution of any disagreements between management and the independent auditor regarding financial reporting), evaluate the performance of the independent auditor and, if so determined by the Committee, terminate and replace the independent auditor.

2. Ensure the receipt of and evaluate the written disclosures and the letter that the independent auditor submits to the Committee regarding the auditor's independence in accordance with applicable requirements of the Public Company Accounting Oversight Board ("PCAOB"), discuss such materials with the auditor with respect to any disclosed relationships or services that may impact the objectivity and independence of the auditor and take, or recommend that the Board take, appropriate action to address issues raised by such evaluation, and to oversee the independence of the independent auditor.

3. Discuss with the independent auditor other matters required to be communicated to the Committee by the independent auditor under the standards of the PCAOB.

4. Instruct management, the independent auditor and the internal auditor (if any) that the Committee expects to be informed if there are any subjects that require special attention or if any significant deficiencies or material weaknesses to the system of internal control over financial reporting are identified. Review with management and the independent auditor any material changes to the system of internal control over financial reporting.

5. Instruct the independent auditor to report to the Committee on all critical accounting policies of the Company, all alternative treatments of financial information within generally accepted accounting principles that have been discussed with management, ramifications of the use of such alternative treatments (and the related disclosure) and the treatment preferred by the independent auditor, and other material written communication between the independent auditor and management, and discuss these matters with the independent auditor and management.

6. Meet with management and the independent auditor, together and separately, to discuss the annual financial statements and the report of the independent auditor thereon, and to discuss significant issues encountered in the course of the audit work, including: restrictions on the scope of activities; access to required information; the adequacy of internal controls, including any special audit steps adopted in light of any significant deficiencies or material weaknesses in the design or operation of internal control over financial reporting identified during the course of the annual audit, any fraud, whether or not material, that involves management or other employees or consultants who have a significant role in the Company's internal controls structure and procedures for financial reporting, and the adequacy of disclosures about changes in internal control over financial reporting; the adequacy of the disclosure of off-balance sheet transactions, arrangements, obligations and relationships in reports filed with the Securities and Exchange Commission (the "SEC"); and the appropriateness of the presentation of

any non-GAAP financial measures (as defined in the rules and regulations promulgated by the SEC (the “Regulations”)) included in any report filed with the SEC or in any public disclosure or release.

7. Review and discuss with management and the independent auditor management’s report on internal control over financial reporting, and, if applicable, the independent auditor’s audit of the effectiveness of the Company’s internal control over financial reporting and its attestation report, if any, prior to the filing of the Company’s annual report on Form 10-K.

8. Review the management letter delivered by the independent auditor in connection with the audit.

9. Following such review and discussions, if so determined by the Committee, recommend to the Board that the annual financial statements be included in the Company’s annual report on Form 10-K.

10. Meet quarterly with management and the independent auditor to discuss the quarterly financial statements prior to the filing of the Company’s quarterly report on Form 10-Q; provided that this responsibility may be delegated to the chair of the Committee or a member of the Committee who is a financial expert; provided, further, that if the responsibility to meet quarterly with management and the independent auditor is delegated, the Committee itself shall still meet at least quarterly.

11. Meet at least once each year in separate executive sessions with management, the internal auditor, if any, and the independent auditor to discuss matters that any of them or the Committee believes could significantly affect the Company’s financial statements and should be discussed privately.

12. Have such direct and independent interaction with members of management, including the Company’s principal financial officer and principal accounting officer, as the Committee believes appropriate.

13. Review significant changes to the Company’s accounting principles and practices proposed by the independent auditor, the internal auditor, if any, or management.

14. Review the scope and results of internal audits, if any.

15. Evaluate the performance of the internal auditor, if any, and, if so determined by the Committee, recommend replacement of the internal auditor.

16. If there is an internal auditor, obtain and review periodic reports on the internal auditor’s significant recommendations to management and management’s responses.

17. Periodically review with management and evaluate any significant financial risk exposures facing the Company and the steps management has taken to control and monitor such exposures.

18. Conduct or authorize such inquiries into matters within the Committee’s scope of responsibility as the Committee deems appropriate.

19. Prepare the Committee report required by the Regulations to be included in the Company's proxy statement for its annual meeting of stockholders.

20. Establish a procedure for receipt, retention and treatment of any complaints received by the Company about its accounting, internal accounting controls or auditing matters and for the confidential and anonymous submission by employees of concerns regarding questionable accounting or auditing matters.

21. Approve, in advance of their performance, in accordance with Sections 10A(h) and (i) of the Exchange Act, the Regulations and the Auditing Standards of the PCAOB, all audit, review and attest services and all permissible non-audit services to be provided to the Company or any subsidiary of the Company by its independent auditor (including any permissible tax or internal control-related services). The Committee shall not engage the independent auditor to perform non-audit services proscribed by any applicable law or regulation. The Committee may adopt policies and procedures for the pre-approval of permissible services, which may include delegation of authority to a designated member or members of the Committee to approve permissible services so long as any such approvals are disclosed to the full Committee at its next scheduled meeting.

22. Review all proposed related party transactions that would require disclosure pursuant to Item 404 of the SEC's Regulation S-K, and, to the extent the Committee deems appropriate, approve and oversee such related party transactions.

23. Oversee the implementation and enforcement of the Company's policy regarding trading in stock and other securities of the Company and the disclosure of such transactions, including reviewing reports prepared by any compliance officer designated under such policy regarding ongoing compliance matters and disciplinary actions under such policy.

24. Provide minutes of Committee meetings to the Board, and report to the Board on any significant matters arising from the Committee's work.

25. Annually review and assess the performance of the Committee and ensure the results of each such self-evaluation are communicated to the Board.

26. Annually review and reassess this Charter and, if appropriate, recommend changes to the Board.

Authority

By adopting this Charter, the Board delegates to the Committee full authority in its discretion to:

1. Perform each of the responsibilities of the Committee described above and such other activities consistent with this Charter, the Company's bylaws and governing law, rules and regulations as the Board deems necessary or appropriate.

2. Appoint a chair of the Committee, unless a chair is designated by the Board.

3. Obtain advice and assistance from internal and/or external legal, accounting and other advisers as the Committee determines necessary to carry out its responsibilities.

4. Cause the officers of the corporation to provide such funding as the Committee shall determine to be appropriate for payment of compensation to the Company's independent auditor and any legal counsel or other advisers engaged by the Committee, and payment of ordinary administrative expenses of the audit committee that are necessary or appropriate in carrying out its duties.

Last amended: December 11, 2014