

MOLECULAR TEMPLATES, INC.

COMPENSATION COMMITTEE CHARTER

Purpose

The purpose of the Compensation Committee of the Board of Directors (the “Board”) of the Company is to oversee the discharge of the responsibilities of the Board relating to compensation of the Company’s executive officers.

Structure and Membership

1. Number. Except as otherwise permitted by applicable Nasdaq rules, the Compensation Committee shall consist of at least two members of the Board.
2. Independence. Except as otherwise permitted by the applicable Nasdaq rules, each member of the Compensation Committee shall be an “independent director” as defined by Nasdaq Rule 5605(a)(2). In addition, in affirmatively determining the independence of any director who will serve on the Compensation Committee, the Board shall consider all factors specifically relevant to determining whether a director has a relationship with the Company which is material to that director’s ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to (i) the source of compensation of the director, including any director, consulting, advisory or other compensatory fee paid by the Company to the director, and (ii) whether the director is affiliated with the Company, a subsidiary of the Company or an affiliate of a subsidiary of the Company.
3. Chair. Unless the Board elects a Chair of the Compensation Committee, the Compensation Committee shall elect a Chair by majority vote.
4. Compensation. The compensation of Compensation Committee members shall be as determined by the Board.
5. Selection and Removal. Members of the Compensation Committee shall be appointed by the Board, upon the recommendation of the Nominating and Corporate Governance Committee. The Board may remove members of the Compensation Committee from such committee, with or without cause.

Authority and Responsibilities

General

The Compensation Committee shall discharge its responsibilities, and shall assess the information provided to it by the Company’s management and others, in accordance with its business judgment.

Compensation Matters

1. **Executive Officer Compensation.** The Compensation Committee shall review and approve, or recommend for approval by the Board, the compensation of the Chief Executive Officer and the Company's other executive officers, including salary, bonus and incentive compensation levels; deferred compensation; executive perquisites; equity compensation (including awards to induce employment); severance arrangements; change-in-control benefits and other forms of executive officer compensation. The Chief Executive Officer may not be present during voting or deliberations on his or her compensation.
2. **Evaluation of Senior Executives.** The Compensation Committee shall be responsible for overseeing the evaluation of the Company's senior executives. In conjunction with the Audit Committee in the case of the evaluation of the senior financial management, the Compensation Committee shall determine the nature and frequency of the evaluation and the persons subject to the evaluation, supervise the conduct of the evaluation and prepare assessments of the performance of the Company's senior executives, to be discussed periodically with the Board.
3. **Plan Recommendations and Approvals.** The Compensation Committee shall periodically review and make recommendations to the Board with respect to incentive-compensation and equity-based plans that are subject to approval by the Board. In addition, the Compensation Committee, or a majority of the independent directors serving on the Board, shall approve any tax-qualified, non-discriminatory employee benefit plans (and any parallel nonqualified plans) for which stockholder approval is not sought and pursuant to which options or stock may be acquired by officers, directors, employees or consultants of the Company.
4. **Administration of Equity-Based Plans.** The Compensation Committee shall exercise all rights, authority and functions of the Board under all of the Company's stock option, stock incentive, employee stock purchase and other equity-based plans, including without limitation, the authority to interpret the terms thereof, to grant options thereunder and to make stock awards thereunder; provided, however, that, except as otherwise expressly authorized to do so by this charter, any such plan or a resolution of the Board, the Compensation Committee shall not be authorized to amend any such plan. To the extent permitted by and consistent with applicable law and the provisions of a given equity-based plan, the Compensation Committee may delegate to one or more executive officers of the Company the power to grant options or other stock awards pursuant to such equity-based plan to employees of the Company or any subsidiary of the Company who are not directors or executive officers of the Company. The Compensation Committee, or a majority of the independent directors serving on the Board, shall approve any inducement awards to be granted in reliance on the exemption from stockholder approval contained in Nasdaq Rule 5635(c)(4).

5. Director Compensation. The Compensation Committee shall periodically review and make recommendations to the Board with respect to director compensation.
6. Review and Discussion of Compensation Discussion and Analysis; Recommendation to Board. The Compensation Committee shall review and discuss annually with management the Company's "Compensation Discussion and Analysis" required by Item 402(b) of Regulation S-K (the "CD&A"), if applicable. The Compensation Committee shall consider annually whether it will recommend to the Board that the CD&A be included in the Company's Annual Report on Form 10-K, proxy statement on Schedule 14A or information statement on Schedule 14C.
7. Compensation Committee Report. The Compensation Committee shall prepare the annual Compensation Committee Report required by Item 407(e)(5) of Regulation S-K.
8. Compensation Consultants, Counsel and Other Advisors. The Compensation Committee shall have the authority, in its sole discretion, to retain or obtain the advice of such compensation consultants, legal counsel and other advisors as the Compensation Committee deems necessary or appropriate to carry out its responsibilities. In connection with retaining or obtaining the advice of such consultants, counsel and advisors, the Compensation Committee shall take into consideration the applicable factors affecting independence that are specified in SEC and Nasdaq rules. The Compensation Committee shall be directly responsible for the appointment, compensation and oversight of the work of any consultants, counsel and advisors that it retains. The Compensation Committee is empowered, without further action by the Board, to cause the Company to pay the compensation of such consultants, counsel and advisors as established by the Compensation Committee.
9. Additional Duties. The Compensation Committee shall have such other duties as may be delegated from time to time by the Board.

Procedures and Administration

1. Meetings. The Compensation Committee shall meet as often as it deems necessary in order to perform its responsibilities. Meetings may be held in person, by means of telephone or video conference or similar communication equipment. A majority of the members of the Compensation Committee shall constitute a quorum for the purposes of holding a meeting and the Compensation Committee may act by a vote of a majority of members present at such meeting. The Compensation Committee may also act by unanimous written consent in lieu of a meeting. The Compensation Committee shall keep such records of its meetings as it shall deem appropriate.
2. Subcommittees. The Compensation Committee may form and delegate authority to one or more subcommittees as it deems appropriate from time to time under the

circumstances, including (i) a subcommittee consisting of a single member and (ii) a subcommittee consisting of at least two members, each of whom qualifies as a “non-employee director,” as such term is defined from time to time in Rule 16b-3 promulgated under the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, and an “outside director,” as such term is defined from time to time in Section 162(m) of the Internal Revenue Code of 1986, as amended, and the rules and regulations thereunder.

3. Reports to Board. The Compensation Committee shall report regularly to the Board.
4. Charter. The Compensation Committee shall, from time to time as it deems appropriate, review and reassess the adequacy of this Charter and recommend any proposed changes to the Board for approval.
5. Investigations. The Compensation Committee shall have the authority to conduct or authorize investigations into any matters within the scope of its responsibilities as it shall deem appropriate, including the authority to request any officer, employee or advisor of the Company to meet with the Compensation Committee or any advisors engaged by the Compensation Committee.
6. Self-Evaluations. From time to time, the Compensation Committee shall evaluate its own performance and report on such evaluation to the Board.