

## BIOXCEL THERAPEUTICS, INC.

### COMPENSATION COMMITTEE CHARTER

#### A. PURPOSE

The purpose of the Compensation Committee (the “*Committee*”) of the Board of Directors (the “*Board*”) of BioXcel Therapeutics, Inc. (the “*Company*”) is to, among other things, oversee the discharge of the responsibilities of the Board relating to compensation of the Company’s executive officers.

#### B. STRUCTURE AND MEMBERSHIP

1. Number. The Committee shall consist of at least two members of the Board.
2. Independence. Except as otherwise permitted by the applicable rules of The Nasdaq Stock Market LLC (“*Nasdaq*”), each member of the Committee shall satisfy the independence requirements under the applicable Nasdaq rules.
3. Chair. Unless the Board elects a Chair of the Committee, the Committee may elect a Chair by majority vote.
4. Compensation. The compensation of Committee members shall be as determined by the Board.
5. Selection and Removal. Members of the Committee shall be appointed by the Board. The Board may remove members from the Committee, with or without cause.
6. Rules and Procedures. The Committee has the authority to establish its own rules and procedures for notice and conduct of its meetings so long as they are not inconsistent with any provisions of the Company’s bylaws that are applicable to the Committee.

#### C. AUTHORITY AND RESPONSIBILITIES

##### *General*

The 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 Committee shall review and approve, or recommend for approval by the Board, the compensation of the Company’s Chief Executive Officer (the “*CEO*”) and the Company’s other officers (as defined in Rule 16a-1(f) under the Securities Exchange Act of 1934, as amended (the “*Exchange Act*”), 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 officer compensation. The Committee shall meet without the presence of the CEO when approving or deliberating on CEO compensation but may, in its discretion, invite the CEO to be present during the approval of, or deliberations with respect to, other executive officer compensation.

2. Incentive and Equity Plans. The Committee will review and approve or make recommendations to the Board regarding the Company's incentive compensation and equity-based plans and arrangements.

3. Administration of Equity-Based Plans. The 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 and to grant options and other equity-based awards thereunder, except to the extent the terms of any such plan require administration by the Board. To the extent permitted by and consistent with applicable law and the provisions of a given equity-based plan, the Committee may delegate to one or more executive officers of the Company the power to grant options or other stock or other equity-based awards pursuant to such equity-based plan to employees of the Company or any subsidiary of the Company who are not officers or directors of the Company. The Committee shall approve, or recommend for approval by the Board, any inducement awards to be granted in reliance on the exemption from stockholder approval contained in Nasdaq Rule 5635(c)(4).

4. Director Compensation. The Committee may periodically review and make recommendations to the Board with respect to director compensation.

5. Review and Discussion of Compensation Discussion and Analysis; Recommendation to Board. To the extent that the Company is required to include the "Compensation Discussion and Analysis" required by Item 402(b) of Regulation S-K ("**CD&A**") in the Company's Annual Report on Form 10-K, proxy statement on Schedule 14A or information statement on Schedule 14C (collectively, the "**Proxy Documents**"), the Committee shall review and discuss with management the Company's CD&A and shall determine whether it will recommend to the Board that the Company's CD&A be included in the Proxy Documents.

6. Compensation Committee Report. If required, the Committee shall prepare the annual Compensation Committee Report pursuant to Item 407(e)(5) of Regulation S-K.

7. Say-on-Pay Votes. To the extent required, the Committee will (a) review and discuss the results of the most recent stockholder advisory vote on executive compensation ("**Say on Pay Votes**"), if any such vote was held, and (b) review and recommend to the Board for approval the frequency with which the Company will conduct Say on Pay Votes, taking into account any such results.

8. Compensation Consultants, Counsel and Other Advisors. The 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 Committee deems necessary or appropriate to carry out its responsibilities. In connection with retaining or obtaining the advice of such consultants, counsel and advisors, other than in-house legal counsel, the Committee shall take into consideration the factors affecting independence required by applicable laws, Securities and Exchange Commission rules and Nasdaq rules. The Committee shall be directly responsible for the appointment, compensation and oversight of the work of any consultants, counsel and advisors that it retains. The 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 Committee.

9. Risk Management. The Committee will periodically review the Company's compensation policies and practices and assess whether such policies and practices are reasonably likely to have a material adverse effect on the Company by encouraging excessive risk-taking.

10. Human Capital Management. The Committee shall oversee Company programs and policies as may be applicable, regarding talent management (including retention, development, and training) and diversity and inclusion.

11. Additional Duties. In addition to the duties and responsibilities expressly delegated to the Committee in this Charter, the Committee may exercise any other powers and carry out any other responsibilities consistent with this Charter, the purposes of the Committee, the Company's organizational documents and applicable Nasdaq rules.

#### **D. PROCEDURES AND ADMINISTRATION**

1. Meetings. The Committee shall meet as often as it deems necessary in order to perform its responsibilities. The Committee may also act by unanimous written consent in lieu of a meeting. The Committee shall keep such records of its meetings.

2. Subcommittees. The Committee may form and delegate authority to one or more subcommittees as it deems appropriate from time to time under the circumstances (including (a) a subcommittee consisting of a single member and (b) 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 Exchange Act, and the rules and regulations thereunder).

3. Reports to the Board. The Committee shall report regularly to the Board regarding the activities of the Committee.

4. Charter Review. The Committee shall annually review and reassess the adequacy of this Charter and recommend any proposed changes to the Board for approval.

5. Investigations. The 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 Committee or any advisors engaged by the Committee.

6. Self-Evaluation. The Committee shall periodically evaluate its own performance.

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Effective Date: May 3, 2023