

NOMINATING AND CORPORATE GOVERNANCE COMMITTEE CHARTER OF SYNLOGIC, INC.

This Nominating and Corporate Governance Committee Charter (this “Charter”) was adopted by the Board of Directors (the “Board”) of Synlogic, Inc., a Delaware corporation (the “Company”), on August 25, 2015, and effective upon approval by the Board.

I. Purpose

The purpose of the Nominating and Corporate Governance Committee (the “Committee”) of the Board is to assist the Board in discharging the Board’s responsibilities regarding:

- (a) the identification of qualified candidates to become Board members consistent with criteria approved by the Board;
- (b) the selection, or recommendation of selection to the Board regarding the selection, of nominees for election as directors at the next annual meeting of stockholders (or special meeting of stockholders at which directors are to be elected);
- (c) the selection, or recommendation of selection to the Board regarding the selection, of candidates to fill any vacancies on the Board;
- (d) evaluate and recommend to the Board any changes to the authorized size of the Board;
- (e) the assignment and rotation of Board members to various Board committees;
- (f) the review and recommendation to the Board of revisions to the Corporate Governance Guidelines;
- (g) oversight of the evaluation of the Board and its various committees; and
- (h) assistance with the selection of candidates for future executive officers as well the promotion and changes in position of incumbent executive officers.

In addition to the powers and responsibilities expressly delegated to the Committee in this Charter, the Committee may exercise any other powers and carry out any other responsibilities delegated to it by the Board from time to time consistent with the Company’s bylaws and applicable law. The powers and responsibilities delegated by the Board to the Committee in this Charter or otherwise shall be exercised and carried out by the Committee as it deems appropriate without requirement of Board approval, and any decision made by the Committee (including any decision to exercise or refrain from exercising any of the powers delegated to the Committee hereunder) shall be at the Committee’s sole discretion. While acting within the scope of the powers and responsibilities delegated to it, the Committee shall have and may exercise all the powers and authority of the Board. To the fullest extent permitted by law, the Committee shall have the power to determine which matters are within the scope of the powers and responsibilities delegated to it.

II. Membership

The Committee shall be composed of two (2) or more directors, as determined by the Board, each of whom (a) satisfies the independence requirements of The Nasdaq Stock Market LLC (“NASDAQ”) and (b) has experience, in the business judgment of the Board, that would be helpful in addressing the matters delegated to the Committee. If at any time and for so long as the Committee is not solely comprised of members meeting the independence requirements of NASDAQ (subject to applicable exceptions), then the duty and responsibility of the Committee set forth in Article IV Section 1 below shall be exercised by the directors of the Board constituting at least a majority of the Board’s directors that are independent (within the meaning of NASDAQ Rule 5605(a)(2), including without limitation as contemplated by NASDAQ Rule 5605(e)(1)(A)).

The members of the Committee, including the chairperson (the “Chair”) of the Committee, shall be appointed by the Board. Committee members may be removed from the Committee, with or without cause, by the Board. Any action duly taken by the Committee shall be valid and effective, whether or not the members of the Committee at the time of such action are later determined not to have satisfied the requirements for membership provided herein.

III. Meetings and Procedures

The Chair (or in his or her absence, a member designated by the Chair) shall preside at each meeting of the Committee and set the agendas for Committee meetings. The Committee shall have 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.

The Committee shall meet on a regularly scheduled basis at least two (2) times per year and more frequently as the Committee deems necessary or desirable. Meetings of the Committee may be called by the Chair upon notice given at least twenty-four (24) hours prior to the meeting, or upon such shorter notice as shall be approved by the Committee. The Chair shall designate a secretary for each meeting who shall record minutes of all formal actions of the Committee. A majority of the Committee members, present in person or by phone, shall constitute a quorum. A majority of the members present shall decide any questions brought before the Committee, except to the extent otherwise required by the Company’s certificate of incorporation or bylaws (each as in effect from time to time). Notwithstanding the foregoing, in the event the Committee consists of only two (2) members, both members must be present, in person or by phone, to constitute a quorum. Meetings of the Committee may be held by conference call. Unless otherwise restricted by the Company’s bylaws, any action required or permitted to be taken at any meeting of the Committee may be taken without a meeting if all members of the Committee consent thereto in writing (including by electronic transmission), and such writing (including any electronic transmission) is filed with the minutes of the Committee.

All non-management directors who are not members of the Committee may attend and observe meetings of the Committee at the pleasure of the Committee, but shall not participate in any discussion or deliberation unless invited to do so by the Committee, and in any event shall not be entitled to vote. The Committee may, at its discretion, include in its meetings members of

the Company's management, or any other person whose presence the Committee believes to be desirable and appropriate.

The Committee may retain any independent counsel, experts or advisors that the Committee believes to be desirable and appropriate. The Committee may also use the services of the Company's regular legal counsel or other advisors to the Company. The Company shall provide for appropriate funding, as determined by the Committee, for payment of compensation to any such persons engaged by the Committee and for ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties. The Committee shall have the authority to retain and terminate any search firm to be used to identify director candidates, including the authority to approve such search firm's fees and other retention terms.

The Committee shall keep regular minutes of any meetings where actions are taken (unless such actions are taken and reported to the Committee's satisfaction in the minutes of the Board meetings). Any such minutes kept by the Committee shall be distributed to each member of the Committee. The Secretary of the Company shall maintain the original signed minutes for filing with the corporate records of the Company. The Chair, or other Committee members in the absence of the Chair, shall report to the Board regarding the activities of the Committee at appropriate times and as otherwise requested by the Chairperson of the Board.

IV. Duties and Responsibilities

1. (a) At an appropriate time prior to each annual meeting of stockholders at which directors are to be elected or reelected, the Committee shall recommend to the Board for nomination by the Board such candidates as the Committee, in the exercise of its judgment, has found to be well qualified and willing and available to serve.

(b) At an appropriate time after a vacancy arises on the Board or a director advises the Board of his or her intention to resign, the Committee shall recommend to the Board for appointment by the Board to fill such vacancy, such prospective member of the Board as the Committee, in the exercise of its judgment, has found to be well qualified and willing and available to serve.

(c) in the event a vacancy arises on the board or the company shall undertake to appoint a new director where no vacancy currently exists, the Committee shall recommend to the Board whether to increase or decrease the authorized size of the Board as appropriate.

(d) For purposes of (a) and (b) above, the Committee may consider the following criteria, among others the Committee shall deem appropriate, in recommending candidates for election to the Board:

- (i) personal and professional integrity, ethics and values;
- (ii) experience in corporate management, operations or finance, such as serving as an officer or former officer of a publicly held company, and a general understanding of marketing, finance and other elements relevant to the success of a publicly-traded company in today's business environment;

- (iii) experience relevant to the Company's industry and with relevant social policy concerns;
- (iv) experience as a board member or executive officer of another publicly held company;
- (v) relevant academic expertise or other proficiency in an area of the Company's operations;
- (vi) practical and mature business judgment, including ability to make independent analytical inquiries;
- (vii) diversity of personal and professional background, perspective and experience;
- (viii) promotion of a diversity of business or career experience relevant to the success of the Company; and
- (ix) any other relevant qualifications, attributes or skills.

2. The Committee shall periodically review the performance of each current director and shall consider the results of such evaluation when determining whether or not to recommend the nomination of such director for an additional term.

3. In appropriate circumstances, the Committee, in its discretion, shall consider and may recommend the removal of a director for cause, in accordance with the applicable provisions of the Company's certificate of incorporation, bylaws and Corporate Governance Guidelines.

4. With respect to the executive officers, the Committee shall periodically or when requested by the board:

- a. Consult with the Compensation Committee of the Board to review the succession planning for executive officers of the Company and other appropriate management personnel, which shall include transitional leadership in the event of an unplanned vacancy;
- b. consult with the Compensation Committee with respect to recommendations for promotions and changes in position of incumbent executive officers upon Compensation Committee review of their performance; and
- c. work with the Board and Compensation Committee to evaluate potential successors to such executive officer positions.

5. The Committee shall periodically oversee the Board in the Board's review of its performance (including its composition and organization) and will make appropriate recommendations to improve performance.

6. The Committee may review and periodically assess and make recommendations to the Board regarding governance matters, including, but not limited to, the Company's certificate of incorporation, bylaws, this Charter and the charters of the Board's other committees.

7. The Committee shall periodically review and assess the composition of the various committees of the Board and recommend, for approval by the Board, the assignment and rotation of Board members to such committees.

8. The Committee shall periodically review and recommend revisions to the Corporate Governance Guidelines.

9. The Committee shall develop and recommend to the Board a policy regarding the consideration of director candidates recommended by the Company's security holders and procedures for submission by security holders of director nominee recommendations.

10. The Committee shall consider, develop and recommend to the Board such policies and procedures with respect to the nomination of directors or other corporate governance matters as may be required or required to be disclosed pursuant to any rules promulgated by the Securities and Exchange Commission, NASDAQ, or otherwise considered to be desirable and appropriate in the discretion of the Committee.

11. The Committee shall periodically review the leadership structure of the Board and provide the Board with any recommendations for changes in such leadership structure.

12. The Committee may recommend to the Board the employment and appointment of future executive officers, as well as promotion and changes in position of incumbent executive officers upon review of their performance.

13. The Committee shall periodically report to the Board on its findings and actions.

14. The Committee shall periodically perform an evaluation of the performance of the Committee and its members, including a review of the Committee's compliance with this Charter, and provide any recommendations for changes in procedures or policies governing the Committee. The Committee shall conduct such evaluation and review at such times and in such manner as it deems appropriate.

15. The Committee shall periodically review and reassess this Charter and submit any recommended changes to the Board for its consideration.

V. Delegation of Duties

In fulfilling its responsibilities, the Committee shall be entitled to delegate any or all of its responsibilities to a subcommittee of the Committee, to the extent consistent with the Company's certificate of incorporation, bylaws, Corporate Governance Guidelines and applicable laws, regulations and NASDAQ rules.