

BLUEBIRD BIO, INC.

NOMINATING AND CORPORATE GOVERNANCE COMMITTEE CHARTER

I. General Statement of Purpose

The purposes of the Nominating and Corporate Governance Committee of the Board of Directors (the “**Nominating Committee**”) of bluebird bio, Inc. (the “**Company**”) are to:

- identify individuals qualified to become board members, consistent with criteria approved by the Board;
- select, or recommend that the Board select, the director nominees for election at each annual meeting of stockholders;
- develop and recommend to the Board a set of corporate governance guidelines applicable to the Company, periodically reviewing such guidelines and recommending any changes thereto; and
- oversee the evaluation of the Board and management.

II. Composition

The number of independent directors serving on the Nominating Committee shall be fixed by the Board from time to time but shall consist of no fewer than two members, each of whom shall satisfy the independence standards established pursuant to Rule 5605(a)(2) under the Stock Market Rules of The NASDAQ Stock Market LLC.

The members of the Nominating Committee shall be appointed annually by the Board and may be replaced or removed by the Board at any time with or without cause. Resignation or removal of the Director from the Board, for whatever reason, shall automatically constitute resignation or removal, as applicable, from this committee. Vacancies occurring, for whatever reason, may be filled by the Board. The Board shall designate one member of the Nominating Committee to serve as Chairman of the Nominating Committee.

III. Meetings

The Nominating Committee shall meet as often as it determines is appropriate to carry out its responsibilities. The Nominating Committee may meet in person or by conference telephone or other communications equipment by means of which all persons can hear, with any additional meetings as deemed necessary or appropriate by the Nominating Committee. A majority of the members of the Nominating Committee shall constitute a quorum, and the Nominating Committee may act by a vote of a majority of members present at such meeting. The Nominating Committee may also act by unanimous written consent.

IV. Nominating Committee Activities

The Nominating Committee’s purpose and responsibilities shall be to:

A. Review of Charter

- Review and reassess the adequacy of this Charter and submit any proposed changes to the Board for approval.

B. Selection of New Directors

- Recommend to the Board criteria for Board and committee membership, which shall include a description of any specific qualifications that the Nominating Committee believes must be met by a Nominating Committee-recommended nominee, and a description of any specific qualities or skills believed to be necessary for the Company's directors to possess, and periodically reassess the adequacy of such criteria and submit any proposed changes to the Board for approval.
- Establish a process for identifying and evaluating nominees for the Board, including nominees recommended by securityholders, and any policies or procedures with regard to the consideration of director candidates recommended by stockholders.
- Upon identifying individuals qualified to become members of the Board, consistent with the minimum qualifications and other criteria approved by the Board or the Nominating Committee from time to time, recommend that the Board select the director nominees for election at each annual meeting of stockholders; provided that, if the Company is legally required by contract or otherwise to provide third parties with the ability to nominate individuals for election as a member of the Board, the selection and nomination of such director nominees shall be governed by such contract or other arrangement and shall not be the responsibility of the Nominating Committee.
- Recommend to the Board the directors for appointment to committees of the Board.
- Review all stockholder nominations and proposals submitted to the Company (including any director nominations made by stockholders pursuant to Rule 14a-11 (or any successor rule) under the Securities Exchange Act of 1934, as amended, or otherwise, and any proposal relating to the procedures for making nominations or electing directors), determine whether the nomination or proposal was submitted in a timely manner and, in the case of a director nomination, whether the nomination and the nominee satisfy all applicable eligibility requirements, and recommend to the Board appropriate action on each such nomination or proposal.

C. Corporate Governance Guidelines

- Develop and recommend to the Board a set of Corporate Governance Guidelines applicable to the Company.

- Review and reassess the adequacy of the Corporate Governance Guidelines periodically and recommend any proposed changes to the Board for approval.

D. Matters Relating to Retention and Termination of Search Firms to Identify Director Candidates

- Exercise sole authority to retain and terminate any search firm that is to be used by the Company to assist in identifying director candidates. The Nominating Committee shall also have sole authority to approve any such search firm's fees and other retention terms.

V. General

- The Nominating Committee may establish and delegate authority to subcommittees consisting of one or more of its members, when the Nominating Committee deems it appropriate to do so in order to carry out its responsibilities.
- The Nominating Committee shall make regular reports to the Board concerning areas of the Nominating Committee's responsibility.
- In carrying out its responsibilities, the Nominating Committee shall be entitled to rely upon advice and information that it receives in its discussions and communications with management and such experts, advisors and professionals with whom the Nominating Committee may consult. The Nominating Committee shall have the authority to request that any officer or employee of the Company, the Company's outside legal counsel, the Company's independent auditor or any other professional retained by the Company to render advice to the Company attend a meeting of the Nominating Committee or meet with any members of or advisors to the Nominating Committee. The Nominating Committee shall also have the authority to engage legal, accounting or other advisors to provide it with advice and information in connection with carrying out its responsibilities and shall have sole authority to approve any such advisor's fees and other retention terms.
- The Nominating Committee may perform such other functions as may be requested by the Board from time to time.

Adopted May 5, 2013, subject to effectiveness of the Company's Registration Statement on Form S-1.