

ARCA BIOPHARMA, INC.

NOMINATING AND CORPORATE GOVERNANCE COMMITTEE CHARTER

This Charter of the Nominating and Corporate Governance Committee of the Board of Directors of ARCA biopharma, Inc. (the “Company”) was adopted by the Board of Directors of the Company (the “Board”) on May 1, 2009, and supercedes all prior delegation of authority to the Nominating and Corporate Governance Committee (the “Committee”).

I. Purpose

The purposes of the Committee are to:

- identify qualified individuals to serve as directors of the Company;
- recommend to the Board a slate of directors for election or reelection as directors by the stockholders at the annual meeting, as well as candidates to fill any vacancies that may occur on the Board from time to time;
- make recommendations to the Board regarding the policies of the Company regarding corporate governance and business conduct and ethics; and
- fulfill the other responsibilities described below, as well as such additional responsibilities as may be delegated to the Committee from time to time by the Board.

II. Membership

The Committee shall consist of at least two directors appointed by the Board, one of whom shall be designated as the Chair. Committee members may be removed from the Committee, with or without cause, by the Board. All members of the Committee shall qualify as independent under The NASDAQ Stock Market, Inc. Marketplace Rules and be otherwise free from any relationship that, in the judgment of the Board, would interfere with his or her exercise of independent judgment as a Committee member.

III. Responsibilities

The Committee shall have the power and duty to:

1. Review, at least annually, the composition of the Board and the standing committees of the Board and the skills, experience and performance of each of the directors of the Board and represented on the standing committees. The Committee shall consider the results of such reviews in making recommendations to the Board with respect to director nominees, the size of the Board and the composition of each of the standing committees of the Board.

2. Consider and evaluate the independence of the directors under the standards adopted by The NASDAQ Stock Market and the Securities and Exchange Commission and recommend to the Board whether a determination of independence is appropriate under applicable rules of The NASDAQ Stock Market and the Securities and Exchange Commission.

3. Recommend to the full Board:

(i) nominees to fill vacancies on the Board as they occur;

(ii) prior to each annual meeting of stockholders, a slate of nominees for election or reelection as directors by the stockholders at the annual meeting; and

(iii) the membership of the standing committees of the Board.

4. As appropriate, identify and evaluate new candidates to serve as Board members, and consider candidates submitted by stockholders of the Company in accordance with the notice provisions and procedures set forth in the by-laws of the Company, the applicable provisions of the federal securities laws and policies adopted by the Committee for submission of candidates to the Board.

5. Adopt policies regarding the submission of candidates for election to the Board by the stockholders of the Company. The criteria to be used by the Committee in considering candidates to serve as directors will include: (i) the background and skills of the candidate and his or her expected contribution to the Board; (ii) the other directorships and commitments of the individual to assess whether the candidate has adequate time to devote to the affairs of the Company; and (iii) the independence of the candidate and such other attributes as shall be relevant in constituting a Board that also satisfies the requirements imposed by the Securities and Exchange Commission and The NASDAQ Stock Market.

6. To the extent the Committee deems appropriate, make recommendations to the Board with respect to the size of the Board.

7. Evaluate and make recommendations to the Board with respect to the compensation of Board members.

8. Make recommendations to the Board regarding corporate governance matters and practices, including formulating and periodically reviewing corporate governance guidelines to be adopted by the Board.

9. Consider, in light of changing conditions, new legislation and other developments, the Company's policies regarding business conduct and ethics, and make recommendations to the Board for changes to such policies and the Company's code of ethics as the Committee shall deem appropriate.

10. Periodically review and reassess this Charter and recommend any changes to the Board for its consideration and approval.

11. Periodically evaluate the effectiveness of the Committee.

12. Establish procedures for the receipt, retention and treatment of complaints received by the Company regarding matters other than accounting, internal accounting controls, auditing matters or deceptive financial practices auditing matters and other than matters relating to any report of evidence of a material violation under Rule 205.3 of Title 17, Chapter II of the Code of Federal Regulations.

13. Perform such other functions as may from time to time be delegated by the Board.

IV. Meetings and Procedures

The Committee shall meet on a regularly-scheduled basis as it deems appropriate and on such other occasions as circumstances may dictate or the members of the Committee may from time to time determine. A quorum of the Committee shall consist of a majority of the members of the Committee in office at the time of any meeting, present in person or by telephone, and the vote of a majority of the members of the Committee present at the time of a vote, if a quorum is present at that time, shall be the act of the Committee. The Chair (or in his or her absence, another member designated by the Chair or chosen by attending members) shall preside at each meeting 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 by-laws that are applicable to the Committee. Any action required or permitted to be taken at a meeting of the members of the Committee may be taken without a meeting if a consent in writing setting forth the action is signed by all of the members of the Committee.

The Committee shall maintain written minutes or other records of its meeting and activities. Minutes shall be distributed to each member of the Committee. The Secretary of the Company shall file the signed minutes and any written consents with the corporate records of the Company. The Chair of the Committee shall report to the Board following meetings of the Committee and as otherwise requested by the Board.

The Committee may, at its discretion, include in, or determine to exclude from, its meetings members of the Company's management, any director who is not a member of the Committee, compensation, legal, tax and accounting advisors and any other personnel employed or retained by the Company or any other persons whose presence the Committee believes to be necessary or appropriate.

V. Advisors and Consultants

The Committee may retain any independent counsel, experts or advisors that the Committee believes to be necessary or appropriate. The Committee may also utilize 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 counsel, experts or advisors retained by the Committee, and ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.

It is acknowledged that all of the above listed tasks and focus areas may not be relevant to all of the matters and tasks that the Committee may consider and act upon from time to time, and the members of the Committee in their judgment may determine the relevance thereof and the attention such items shall receive in any particular context.
