

Yield10 Bioscience, Inc.

Nominating and Corporate Governance Committee Charter

I. General Statement of Purpose

The Nominating and Corporate Governance Committee of the Board of Directors (the “Nominating Committee”) of Yield10 Bioscience, Inc. (the “Company”) on behalf of the Board of Directors (the “Board”) is responsible for identifying individuals qualified to become Board members, consistent with criteria approved by the Board, and recommending that the Board select the director nominees for election at each annual meeting of stockholders. The Nominating Committee is also responsible for developing and recommending to the Board a set of corporate governance guidelines applicable to the Company and a Code of Business Conduct and Ethics applicable to all Company employees, directors and officers, periodically reviewing such guidelines and code and recommending any changes thereto, and overseeing the evaluation of the Board.

II. Nominating Committee Composition

The number of individuals serving on the Nominating Committee shall be fixed by the Board from time to time but shall consist of no fewer than two (2) members, each of whom shall satisfy the independence standards established pursuant to Nasdaq Rule 5605(a)(2).

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 generally is to meet at least once per year in person or by conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, 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 for purposes of holding a meeting and the Nominating Committee may act by a vote of a majority of members present at such meeting. In lieu of a meeting, the Nominating Committee may 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 annually and submit any proposed changes to the Board for approval.

B. Annual Performance Evaluation of the Nominating Committee

- Perform an annual performance evaluation of the Nominating Committee and report to the Board on the results of such evaluation.

C. Selection of New Directors

- Recommend to the Board criteria for Board and committee membership, which shall include a description of any specific, minimum qualifications that the Nominating Committee believes must be met by a Nominating Committee-recommended nominee, and a description of any specific qualities or skills that the Nominating Committee believes are necessary for one or more of the Company's directors to possess, and annually reassess the adequacy of such criteria and submit any proposed changes to the Board for approval.
- Review the composition and size of the Board in order to ensure that the Board is comprised of members possessing the proper expertise, skills, attributes and personal and professional backgrounds for service as a director of the Company, as determined by the Nominating Committee, and make recommendations to the Board with respect to any proposed change in the size of the Board. The criteria for Board membership are set forth in the Corporate Governance Guidelines.
- Review and evaluate the qualifications of any director candidates, including any who have been recommended by security holders, in compliance with the procedures established from time to time by the Nominating Committee and as set forth in the Corporate Governance Guidelines, and conduct inquiries it deems appropriate.
- Establish procedures to be followed by security holders in submitting recommendations for director candidates to the Nominating Committee and publish such procedures in the Corporate Governance Guidelines.
- Establish a process for identifying and evaluating nominees for the Board, including nominees recommended by security holders, and publish such process in the Corporate Governance Guidelines.
- Upon identifying individuals qualified to become members of the Board, consistent with the minimum qualifications and other criteria approved by the Board from time to time, recommend that the Board select the director nominees for election at each annual meeting of stockholders or to fill any Board vacancies; 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 (pursuant, for example, to the rights of holders of preferred stock to elect directors upon a dividend default or in accordance with shareholder agreements or management agreements), 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.

- Consider recommendations for director nominees in light of the requirement that a majority of the Board be comprised of directors who meet the independence requirements established pursuant to Nasdaq Rule 5605(a)(2).

D. Board Committees

- Make recommendations to the Board regarding the selection of directors for appointment to committees of the Board.
- Determine whether the members of the Audit Committee meet the standards for independence, financial literacy and financial expertise set forth in the Audit Committee charter, applicable Nasdaq rules and the rules promulgated by the Securities Exchange Commission.
- Determine whether the members of the Compensation Committee meet the standards for independence set forth in the Compensation Committee charter and applicable Nasdaq rules, qualify as “non-employee directors” under Rule 16b-3 of the Securities Exchange Act of 1934 as amended, and as “outside directors” as defined in Section 162(m) of the Internal Revenue Code of 1986, as amended.

E. Code of Business Conduct and Ethics

- Develop and recommend to the Board a Code of Business Conduct and Ethics applicable to all Company employees, directors and officers.
- Review and assess the adequacy of the Code of Business Conduct and Ethics periodically, but at least annually, and recommend any proposed changes to the Board for approval.
- Collaborate with the Company’s officers and legal counsel to publicly disclose any amendments to the Code of Business Conduct and Ethics required to be disclosed by any applicable governmental authority or regulatory body.
- Collaborate with the Company’s officers and legal counsel to develop a means by which allegations of violations of or non-compliance with the Code of Business Conduct and Ethics can be reported to the Committee in a confidential manner.

F. Corporate Governance Guidelines

- Develop and recommend to the Board a set of Corporate Governance Guidelines applicable to the Company.
- Review and assess the adequacy of the Corporate Governance Guidelines annually and recommend any proposed changes to the Board for approval.

G. Evaluation of Board of Directors

- Oversee annual evaluation of the Board and its committees.

H. 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.

I. Related Party Transactions

- The Nominating Committee shall conduct an appropriate review of all related party transactions (including those required to be disclosed pursuant to Item 404 of Regulation S-K) for potential conflict of interest situations on an ongoing basis, and the approval of the Nominating Committee shall be required for all such transactions.

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 shall perform other functions as set forth in the Corporate Governance Guidelines, and may perform such additional functions as may be requested by the Board from time to time.
- References in this Charter to rules of the SEC, the Nasdaq Stock Market or other regulatory bodies shall be deemed to refer to such rules and to any substantially equivalent rules adopted to replace such rules, in each case as subsequently amended, modified or supplemented.

ADOPTED: July 13, 2006

AMENDED AND RESTATED: July 23, 2008

FURTHER AMENDED AND RESTATED: June 20, 2013

UPDATED FOR NAME CHANGE: January 6, 2017