

RESEARCH AND DEVELOPMENT COMMITTEE CHARTER
APTOSE BIOSCIENCES INC.
(the “Corporation”)

1. Purpose

The primary purposes of the Research and Development Committee (the "**Committee**") of Board of Directors of the Corporation (the "**Board**") shall be to oversee matters relating to the Corporation's scientific and technologic capabilities and development programs and report to the Board regarding such matters to help facilitate Board oversight of (1) the Corporation's investment in research and development, product improvements and technology and (2) the Corporation's strategy and processes regarding engagement of the scientific community, support of research and clinical studies and development of scientific data generated by the Corporation's products. The Committee will also monitor and evaluate significant emerging trends and issues in science and technology relevant to the Corporation and assist the Board and the Corporations' management (the "**Management**") in implementing appropriate advisory and thought-leader interactions. The Committee will be provided with resources commensurate with the duties and responsibilities assigned to it by the Board, including administrative support. In the event of a conflict of interest or potential conflict of interest involving one or more of the directors or members of management, the Committee may modify the procedures and requirements set out in this Charter restrict communication and sharing of information to independent directors or otherwise take reasonable measures to manage the conflict of interest or potential conflict of interest.

2. Composition of Committee

- (a) At Least Two Members. The Committee shall consist of a minimum of two (2) directors of the Board. The Board shall appoint the members ("**Members**") of the Committee and may seek the advice and assistance of the Corporate Governance and Nominating Committee of the Corporation in identifying qualified candidates. Each member of the Committee shall have sufficient scientific and/or technological expertise to carry out the purpose of the Committee. The Board shall appoint the Chair or co-Chairs of the Committee or delegate such authority to appoint the Chair of the Committee to the Committee by a majority vote of the Members.
- (b) The Chair of the Committee shall be responsible for the leadership of the Committee, including preparing or approving the agenda, presiding over the meetings, making committee assignments, and reporting highlights of committee meetings to the broader Board.
- (c) Each Member shall be appointed by the Board annually at the next scheduled meeting of the Board following the AGM. The Members will be appointed to hold office until the next annual general meeting of shareholders or until their successors are appointed. The Board may remove a Member at any time by a majority vote of the independent directors then serving on the full Board and may fill any vacancy occurring on the Committee by a majority vote of the authorized number of directors. A Member may resign at any time and a Member will automatically cease to be a Member upon ceasing to be a director.
- (d) The Committee may form and delegate authority to subcommittees when appropriate.

3. Meetings of the Committee

- (a) The Committee shall meet a minimum of twice per year at such time and place as may be designated by the Chair of the Committee and whenever a meeting is requested by the

Board, a Member of the Committee, or the Chief Executive Officer of the Corporation (the "CEO"). The Committee may establish its own meeting schedule, which it will provide to the Board.

- (b) Notice of each meeting of the Committee shall be given to each Member of the Committee.
- (c) Notice of a meeting of the Committee shall:
 - (i) be in writing, including by electronic communication facilities;
 - (ii) state the nature of the business to be transacted at the meeting in reasonable detail;
 - (iii) to the extent practicable, be accompanied by copies of documentation to be considered at the meeting; and
 - (iv) be given at least two business days prior to the time stipulated for the meeting or such shorter period as the Members of the Committee may permit.
- (d) The CEO along with the Chief Medical Officer ("CMO") shall attend each meeting of the Committee whenever requested to do so by a Member of the Committee. The Committee may invite to its meetings other Board members, Management and such other persons as the Committee deems appropriate in order to carry out its responsibilities.
- (e) A quorum for the transaction of business at a meeting of the Committee shall consist of a majority of the Members of the Committee.
- (f) All actions of the Committee will require (i) the vote of a majority of the Members present at a meeting of the Committee at which a quorum is present or (ii) a unanimous written consent of the Members of the Committee then serving.
- (g) A Member or Members of the Committee may participate in a meeting of the Committee by means of such telephonic, video conferencing, electronic or other communication facilities, as permits all persons participating in the meeting to communicate adequately with each other. A Member participating in such a meeting by any such means is deemed to be present at the meeting.
- (h) In the absence of the Chair of the Committee, the Members of the Committee shall choose one of the Members present to be Chair of the meeting. If the Board has not appointed a Corporate Secretary, the Members of the Committee shall choose one of the persons present to be the secretary of the meeting or may have another person who is not a Member of the Committee present to record the minutes of the meeting.
- (i) The Committee shall make regular reports to the full Board on the actions and recommendations of the Committee.

4. Duties and Responsibilities of the Committee

- (a) The Committee's primary duties and responsibilities are to:
 - (i) have close interaction with the Senior R&D Management of the Corporation;
 - (ii) serve in an advisory role and interacting with both Management and external

advisors to develop insights and recommendations regarding the Corporation's approach to product development and technical innovation;

- (iii) assist Management in the identification, evaluation and oversight of appropriate technology and product development investments;
 - (iv) oversee the innovation strategy of the Corporation, including periodic reviews of the Corporation's research and development portfolio and its overall competitiveness, the science and technology underlying major research and development initiatives, the competitive environment and disruptive technology impacts;
 - (v) periodically conduct targeted reviews of the Corporation's intellectual property portfolio and strategy;
 - (vi) advise the Board on the scientific and research and development aspects of major technology-based strategic transactions and agreements that require Board approval;
 - (vii) provide feedback and input regarding the Corporation's development of innovative new business models, strategies and tactics;
 - (viii) assist the Board with the interpretation of scientific and clinical development data;
 - (ix) assist Management with the communication of scientific/clinical development data to stakeholders, including shareholders, investors, the investment community, government, regulatory authorities, clinical sites, investigators key opinion leaders, service providers, legal counsel and others as the Committee considers appropriate;
 - (x) review the Corporation's overall GxP quality strategy and processes to monitor and control product quality;
 - (xi) review important product quality issues and field actions by the Corporation;
 - (xii) periodically consulting with management and the Board concerning identified risks related to the development, acquisition, management and commercialization of the Corporation's product technologies;
 - (xiii) when requested by the Board or Management, prepare or review a report regarding scientific research undertaken by the Corporation.
- (b) In addition to the foregoing, the Committee shall undertake on behalf of the Board such other initiatives as may be necessary or desirable to assist the Board in discharging its responsibility to assist the Board with the interpretation of scientific or clinical development data and to assist Management with the communication of scientific or clinical development data to stakeholders.
- (c) Periodically evaluating the performance of the Committee, including a review of the Committee's compliance with this charter, and reviewing and reassessing this charter and submitting any recommended changes to the Board for its consideration and approval.

5. Reporting

The Committee shall, at the earliest opportunity after each meeting, report to the Board the results of its activities and any reviews undertaken and make recommendations to the Board as deemed appropriate.

6. External Advisors

The Committee shall have authority to retain and compensate, at the expense of the Corporation, any special scientific or other advisors, thought-leaders or consultants as it deems necessary or appropriate in the performance of its duties; provided that any such compensation shall comply with applicable laws and regulations and be within the annual budget of the Committee. The Committee shall keep the Board apprised of the findings of any experts through the Committee's regular reports to the Board. The Committee shall also have authority to pay, at the expense of the Corporation, ordinary administrative expenses that, as determined by the Committee, are necessary or appropriate in carrying out its duties. The Committee shall request approval from the Board to engage advisors or administrative expenses exceeding its annual budget.

7. Date of Charter

This Charter was last reviewed, amended and approved by the Board on March 23, 2023.