ATYR PHARMA, INC.

CORPORATE GOVERNANCE GUIDELINES

The Board of Directors (the "***Board***") of aTyr Pharma, Inc. (the "***Company***") has adopted the corporate governance guidelines set forth below to assist and guide the Board in the exercise of its responsibilities. These guidelines should be interpreted in accordance with any requirements imposed by applicable federal or state law or regulation, the Nasdaq Stock Market LLC ("***Nasdaq***"), the Company's other policies, and the Company's certificate of incorporation, as amended, restated or otherwise modified from time to time (the "***Certificate of Incorporation***") and the Company's bylaws, as amended, restated or otherwise modified from time to time (the "***Bylaws***"). The Board may review and amend these guidelines from time to time.

I. DIRECTOR QUALIFICATION STANDARDS

- **Director Criteria:** The Board shall consider and approve from time to time the appropriate skills, experience, characteristics and other criteria that it deems necessary or advisable for prospective director candidates and for the Board as a whole. The Board shall have full authority to modify such criteria from time to time as it deems necessary or advisable.

  The Board has delegated to the Nominating and Corporate Governance Committee of the Board (the "***Nominating and Corporate Governance Committee***") the responsibility for developing and recommending to the Board for its consideration and approval such criteria for prospective director candidates as the Nominating and Corporate Governance Committee deems necessary or advisable. The Nominating and Corporate Governance Committee will recommend to the Board from time to time such criteria for its consideration and approval. The Board may, however, rescind this delegation to the Nominating and Corporate Governance Committee and thereafter the Board shall have the responsibility for developing and approving from time to time such criteria for prospective director candidates as it deems necessary or advisable.

  At a minimum, the Nominating and Corporate Governance Committee must be satisfied that each recommended nominee meets the following minimum qualifications:

  - The nominee shall have experience at a strategic or policymaking level in a business, government, non-profit or academic organization of high standing.

  - The nominee shall be highly accomplished in his or her respective field, with superior credentials and recognition.

  - The nominee shall be well regarded in the community and shall have a long-term reputation for high ethical and moral standards.

  - The nominee shall have sufficient time and availability to devote to the affairs of the Company, particularly in light of the number of boards of directors on which such nominee may serve.

- To the extent such nominee serves or has previously served on other boards, the nominee shall have a demonstrated history of actively contributing at board meetings.

The Nominating and Corporate Governance Committee may also establish additional specific, minimum qualifications it believes should be met by any director nominees.

- **Process For Identifying and Selecting Directors:** The Board has delegated to the Nominating and Corporate Governance Committee the responsibility of identifying, reviewing, and evaluating suitable candidates for nomination to the Board (including incumbent directors who may be nominated for reelection, candidates to fill any vacancies or newly created directorships that may occur and nominees recommended by stockholders) and assessing their qualifications in light of the policies and principles in these corporate governance guidelines and the Nominating and Corporate Governance Committee's charter. The Nominating and Corporate Governance Committee will recommend prospective director candidates for the Board's consideration and review the prospective candidates' qualifications with the Board. The Board shall retain the ultimate authority to nominate a candidate for election by the stockholders as a director or to fill any vacancy or newly created directorship that may occur.

  In identifying prospective director candidates, the Nominating and Corporate Governance Committee may consider all facts and circumstances that it deems appropriate or advisable, including, among other things, the skills of the prospective director candidate, his or her depth and breadth of business experience or other background characteristics, his or her independence and the needs of the Board.

- **Stockholder Recommendations of Director Nominees:** The Nominating and Corporate Governance Committee will consider director candidates recommended by the Company's stockholders. The Nominating and Corporate Governance Committee does not intend to alter the manner in which it evaluates a candidate for nomination to the Board based on whether or not the candidate was recommended by a stockholder of the Company.

  For nominations of potential candidates made other than by the Board, the stockholder or other person making such nomination must comply with the Bylaws, including without limitation, submission of the information or other materials required with respect to proposed nominees. Each potential candidate must provide a list of references and agree (i) to be interviewed by members of the Nominating and Corporate Governance Committee or other directors in the discretion of the Nominating and Corporate Governance Committee, and (ii) to a background check or other review of the qualifications of a proposed nominee by the Company. Prior to nomination of any potential candidate by the Board, each member of the Board will have an opportunity to meet with the candidate. Upon request, any candidate nominated will agree in writing to comply with these corporate governance guidelines and all other policies and procedures of the Company applicable to the Board.

- **Independence:** At least a majority of the members of the Board shall meet the independence standards of the Stock Market Rules of the Nasdaq Stock Market LLC (the

"***Nasdaq Stock Market Rules***") as set forth in Rule 5605(a)(2) of the Nasdaq Stock Market Rules (or any successor provision thereto).

At times required by the rules of the Securities and Exchange Commission (the "***SEC***") or applicable Nasdaq listing standards and based on information provided by Board and advice of counsel, and at least annually, the Board will evaluate all relationships between the Company and each director in light of relevant facts and circumstances for the purposes of determining whether a material relationship exists that might signal a potential conflict of interest or otherwise interfere with such director's ability to satisfy his or her responsibilities as an independent director, and will make affirmative determinations of director independence.

Board members are expected to disclose promptly to the Board and respond promptly and accurately to periodic questionnaires or other inquiries from the Company regarding any existing or proposed relationships with the Company, including compensation and stock ownership, which could affect the independence of the director. Board members shall also promptly inform the Board of any material changes in such information, to the extent not already known by the Board.

- **Limit on Number of Other Boards:** Carrying out the duties and fulfilling the responsibilities of a director requires a significant commitment of an individual's time and attention. The Board does not believe, however, that explicit limits on the number of other boards of directors on which the directors may serve, or on other activities the directors may pursue, are appropriate. The Board, however, recognizes that excessive time commitments can interfere with an individual's ability to perform his or her duties effectively. In connection with its assessment of director candidates for nomination, the Nominating and Corporate Governance Committee and the Board will assess whether the performance of any director has been or is likely to be adversely impacted by excessive time commitments, including service on other boards of directors. Directors must notify the Chairperson of the Board in connection with accepting a seat on the board of directors or committee of another business entity so that the potential for conflicts or other factors compromising the director's ability to perform his or her duties may be fully assessed. Each director is expected to ensure that other existing and planned future commitments do not materially interfere with the director's service on the Board or any of its committees. Service on other boards and/or committees should be consistent with the Company's Code of Business Conduct and Ethics.

- **Term and Age Limits:** The Board does not believe that arbitrary limits on the number of consecutive terms a director may serve or on the directors' ages are appropriate in light of the substantial benefits resulting from a sustained focus on the Company's business, strategy and industry over a significant period of time. Each individual's performance will be assessed by the Nominating and Corporate Governance Committee and the Board in light of relevant factors in connection with assessments of candidates for nomination to be directors. The Board believes that it is inappropriate to have a retirement age for directors.

- **Succession:** The Nominating and Corporate Governance Committee shall be responsible for periodically reviewing and discussing with the Board and the Chief Executive Officer

succession plans for the Chief Executive Officer and other positions held by senior executive officers, and providing recommendations and evaluations of potential successors to fill these positions.

The Nominating and Corporate Governance Committee shall also be responsible for developing succession plans for the Board and its committees as appropriate in light of relevant facts and circumstances.

II. DIRECTOR RESPONSIBILITIES

- **Role of Directors:** The Company's stockholders select the Board to provide oversight of, and strategic guidance to, senior management. The fundamental responsibility of a Board member is to fulfill his or her fiduciary duties of care and loyalty and otherwise to exercise his or her business judgment in good faith and in a manner the director reasonably believes to be in the best interests of the Company and the Company's stockholders. Key areas of oversight and guidance of each Board member involve risk assessment and mitigation, financial plans and reporting and executive leadership development and compensation. Service on the Board requires significant time and attention on the part of directors. More specifically, the Board has responsibilities to (i) review, approve and monitor fundamental financial and business strategies and major corporate actions, (ii) assess major risks facing the Company and consider ways to address those risks, (iii) select and oversee management and determine its composition and (iv) oversee the establishment and maintenance of processes and conditions to maintain the integrity of the Company. Directors must participate in Board meetings, review relevant materials, serve on committees and prepare for meetings and discussions with management. The Company expects directors to maintain an attitude of constructive involvement and oversight, to ask relevant, incisive and probing questions and to require honest and accurate answers. Directors must act with integrity and the Company expects them to demonstrate a commitment to the Company, the Company's values, the Company's business and long-term stockholder value. At least annually, the Board shall discuss and assess enterprise risk to the Company as a whole. Board members will comply with the laws and requirements of Nasdaq and other applicable regulatory agencies and with all policies and guidelines of the Company, including without limitation, the Company's Code of Business Conduct and Ethics.

- **Attendance at Meetings:** Each member of the Board is expected to make reasonable efforts to prepare for, attend and participate in all regularly scheduled meetings of the Board and committees on which they serve and to participate in telephone conference meetings or other special meetings of the Board. In the event that directors are unable to make at least 75% of those regular or special meetings (together with the meetings of committees on which such director serves), the Company will be required to disclose that fact in its annual proxy statement. In addition, attendance and participation at meetings is an important component of the directors' duties and, as such, attendance rates will be taken into account by the Nominating and Corporate Governance Committee and the Board in connection with assessments of director candidates for renomination as directors. The Company encourages all directors to attend the annual meeting of stockholders.

- **Time Commitment; Advance Distribution and Review of Materials:** Directors are expected to spend the time needed and meet as frequently as the Board deems necessary or appropriate to discharge their responsibilities. Senior management is responsible for distributing information and data that are important to the Board's understanding of the business to be conducted at a Board or Committee meeting to the Directors. Directors should review these materials in advance of the meeting when reasonably practicable.

III. BOARD STRUCTURE

- **Size of Board:** The Board reserves the right to increase or decrease the size of the Board, subject to any relevant provisions in the Certificate of Incorporation or Bylaws, depending on an assessment of the Board's needs and other relevant circumstances at any given time.

- **Board Leadership:** The Bylaws provide that the Chairperson of the Board, if one is elected, shall preside at all meetings of the stockholders and the Board. The Chairperson of the Board shall perform such other duties as the Board may from time to time designate.

- **Committees:** The Board will constitute and maintain an Audit Committee (the "***Audit Committee***"), a Compensation Committee (the "***Compensation Committee***") and a Nominating and Corporate Governance Committee. Only independent directors may serve on the Audit Committee, the Compensation Committee, and the Nominating and Corporate Governance Committee. Each of these standing committees will have a written charter that sets forth the responsibilities of such committee and the qualifications for committee membership. Each committee will periodically review its charter and recommend any proposed charter changes to the Board. The Board may from time to time establish additional committees as necessary or appropriate. Membership on such committees is limited to independent directors meeting the independence requirements of the Nasdaq Stock Market Rules, the Sarbanes-Oxley Act of 2002 and any other related rules or regulations promulgated by the SEC and the Internal Revenue Service (as applicable), subject to applicable phase-in periods. The Board retains discretion to form new committees or disband current committees depending upon the circumstances. Each committee chairperson, in consultation with that committee's members, will determine the processes, frequency, length, and agenda for each committee meeting and the appropriate attendees in light of that committee's charter, the authority delegated by the Board to that committee and the legal, regulatory, accounting and governance principles applicable to that committee's functions.

- **Executive Sessions:** The non-management directors will meet at regularly scheduled executive sessions at which only non-management directors are present, and at least twice each year, or whatever minimum has been set by applicable listing standards. If the Chairperson of the Board is a non-management director and independent under applicable listing standards, then the Chairperson of the Board will preside at these meetings. If the Chairperson of the Board does not so qualify, then the director who presides at these meetings will be chosen by the non-management directors. In either case, the director who presides at these meetings, and his or her name, or the process by which he or she is selected, will be disclosed in the annual proxy statement or, if the Company does not file

an annual proxy statement, in the Company's annual report on Form 10-K filed with the SEC. In order that interested parties may be able to make their concerns known to the non-management directors, the Company will also disclose a method for such parties to communicate directly and confidentially with the presiding director or with the non-management directors as a group.

IV. DIRECTOR ACCESS TO MANAGEMENT AND INDEPENDENT ADVISORS

- In carrying out its responsibilities, the Board, and each committee thereof, shall be entitled to rely on the advice and information that it receives from management and such experts, advisors and professionals with whom the Board, or any such committee, may consult. The Board, and each committee thereof, 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 Board, or such committee, or meet with any members of or advisors to the Board.

- The Board or any committee thereof shall also have the authority, in its sole discretion, to retain and determine compensation for, and obtain the advice of, such consultants, outside counsel, accountants, experts, and other advisors as it determines appropriate to assist it in the full performance of its functions, and will receive appropriate funding from the Company for payment of compensation to any such advisors and for the payment of ordinary administrative expenses that are necessary or appropriate in carrying out its or their responsibilities.

V. DIRECTOR COMPENSATION

- The form and amount of compensation of the Company's non-employee directors for service on the Board and its committees will be reviewed periodically, but at least annually, by the Compensation Committee, which shall make recommendations to the Board based on such review. The Board shall retain the ultimate authority to determine the form and amount of director compensation.

- The Company's executive officers shall not receive additional compensation for their service as directors.

- Compensation for non-employee directors and committee members should be designed to be aligned with the long-term interests of the Company's stockholders and consistent with market practices of similarly situated companies.

VI. PERFORMANCE EVALUATION OF THE BOARD AND COMMITTEES

- The Board will conduct a self-evaluation periodically for the purpose of determining whether it and its committees are functioning effectively, and each committee of the Board will conduct a self-evaluation periodically for the purpose of determining whether it is

functioning effectively. These evaluations will consider the performance of the Board or the committee, as the case may be, as a unit. The Nominating and Corporate Governance Committee will oversee any such evaluation process.

VII. CHIEF EXECUTIVE OFFICER EVALUATION

- The Board will annually review the Chief Executive Officer's performance. The Board will evaluate performance based on objective criteria, including how well the business achieves long-term strategic objectives and successfully develops management. The Compensation Committee and Board will use this evaluation when considering the compensation of the Chief Executive Officer.

VIII. CONFIDENTIALITY

- Board members have an obligation to protect and keep confidential all of the Company's non-public information unless the Company has authorized public disclosure or unless otherwise required by applicable law. Confidential information includes all non-public information entrusted to or obtained by a director by reason of his or her position on the Board. This includes information regarding the Company's strategy, business, finances, and operations, and will include minutes, reports, and materials of the Board and its committees and other documents identified as confidential by the Company.

- Board members may not use such confidential information for personal benefit or to benefit other persons or entities other than the Company. Unless authorized by the Company or applicable law, directors will refrain from disclosing confidential information to anyone outside the Company, especially anyone affiliated with any entity or person that employs the director or has sponsored the director's election to the Board. These obligations continue even after service on the Board has ended. Any questions or concerns about potential disclosures should be directed to the Company's General Counsel, as the Company's Compliance Officer, who then may communicate with the Chief Executive Officer or the Nominating and Corporate Governance Committee regarding potential disclosures. In the absence of the General Counsel, the Chief Financial Officer or a member of the Company's senior management designated by the Chief Financial Officer will be the Company's Compliance Officer. Please consult the Company's Code of Business Conduct and Ethics for more specific information on the definition of "confidential information" and guidance on handling confidential information.

IX. DIRECTOR ORIENTATION AND EDUCATION

- In accordance with its charter, the Nominating and Corporate Governance Committee will implement an orientation process for directors that includes background material on the Company's policies and procedures, meetings with senior management, and visits to the Company's facilities.

- In accordance with its charter, the Nominating and Corporate Governance Committee will consider the need and, if necessary, develop and institute a plan or program for the continuing education of directors, including the systematic review of important corporate governance issues and trends in corporate governance practices that could potentially impact the Company.

X. MISCELLANEOUS

- The Board believes that the management should be responsible for communications with the press, media and other outside parties made on behalf of the Company. Individual Board members may not communicate with outside parties on behalf of the Company unless a specific exception has been made by our Chief Executive Officer or Chief Financial Officer.

- Stockholders of the Company wishing to communicate with the Board or an individual director may send a written communication to the Board or such director c/o aTyr Pharma, Inc., 10240 Sorrento Valley Road, Suite #300, San Diego, California 92121, Attn: Chairperson of the Board. The Chairperson will review each communication. The Chairperson will forward such communication to the Board or to any individual director to whom the communication is addressed unless the communication contains advertisements or solicitations or is unduly hostile, threatening or similarly inappropriate, in which case the Chairperson shall discard the communication.

- These guidelines are not intended to modify, extinguish or in any other manner limit the indemnification, exculpation and similar rights available to the directors under applicable law and/or the Certificate of Incorporation and/or the Bylaws.

- Although these corporate governance guidelines have been approved by the Board, it is expected that these guidelines will evolve over time as customary practice and legal requirements change. In particular, guidelines that encompass legal, regulatory or exchange requirements as they currently exist will be deemed to be modified as and to the extent such legal, regulatory or exchange requirements are modified. In addition, the guidelines may also be amended by the Board at any time as it deems appropriate.

- The Nominating and Corporate Governance Committee will, at least annually, review and assess the adequacy of these guidelines and recommend any proposed changes to the Board for approval.

ADOPTED: April 25, 2015
EFFECTIVE: May 6, 2015
AMENDED: December 10, 2020
AMENDED: September 20, 2023
AMENDED: September 24, 2026