

State of Delaware
Secretary of State
Division of Corporations
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AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
ARTIELLE IMMUNOTHERAPEUTICS, INC.

Gilbert N. Miller hereby certifies that:

ONE: The original name of this company is Artielle Immunotherapeutics, Inc. and the date of filing the original Certificate of Incorporation of this company with the Secretary of State of the State of Delaware was April 1, 2004.

TWO: He is the duly elected and acting Secretary of Artielle Immunotherapeutics, Inc., a Delaware corporation.

THREE: The Certificate of Incorporation of this company is hereby amended and restated to read as follows:

I.

The name of this company is ARTIELLE IMMUNOTHERAPEUTICS, INC. (the "Company" or the "Corporation")

II.

The address of the registered office of this Company in the State of Delaware is 160 Greentree Drive, Suite 101, City of Dover, County of Kent, Zip Code 19904, and the name of the registered agent of this Corporation in the State of Delaware at such address is National Registered Agents, Inc.

III.

The purpose of the Company is to engage in any lawful act or activity for which a corporation may be organized under the Delaware General Corporation Law ("DGCL").

IV.

A. The Company is authorized to issue two classes of stock to be designated, respectively, "Common Stock" and "Preferred Stock." The total number of shares which the Company is authorized to issue is fifty-six million two hundred thousand (56,200,000) shares, forty million (40,000,000) shares of which shall be Common Stock (the "Common Stock") and sixteen million two hundred thousand (16,200,000) shares of which shall be Preferred Stock (the "Preferred Stock"). The Preferred Stock shall have a par value of one cent (\$0.001) per share and the Common Stock shall have a par value of one cent (\$0.001) per share.

B. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares of Common Stock then outstanding) by the affirmative vote of the holders of a majority of the stock of the Company (voting together as a single class on an as-if-converted basis).

C. The Preferred Stock may be issued from time to time in one or more series. The board of directors of the Company (the "**Board**") is hereby expressly authorized to provide for the issue of all of any of the remaining unissued and undesignated shares of the Preferred Stock in one or more series, and to fix the number of shares and to determine or alter for each such series, such voting powers, full or limited, or no voting powers, and such designation, preferences, and relative, participating, optional, or other rights and such qualifications, limitations, or restrictions thereof, as shall be stated and expressed in the resolution or resolutions adopted by the Board providing for the issuance of such shares and as may be permitted by the Delaware General Corporation Law. The Board is also expressly authorized to increase or decrease the number of shares of any series subsequent to the issuance of shares of that series, but not below the number of shares of such series then outstanding. In case the number of shares of any series shall be decreased in accordance with the foregoing sentence, the shares constituting such decrease shall resume the status that they had prior to the adoption of the resolution originally fixing the number of shares of such series.

D. Eight million (8,000,000) of the authorized shares of Preferred Stock are hereby designated "*Series A Preferred Stock*" (the "*Series Preferred*").

E. Notwithstanding anything to the contrary contained herein, the authority of the Board to act by resolution pursuant to Section 151(g) shall be limited as follows: The Company shall at all times reserve and keep available, solely for the purpose of effecting the conversion of the shares of the Series Preferred, such number of its shares of Preferred Stock as shall from time to time be sufficient to effect the conversion, pursuant to Section IV(E)(5)(i) below, of all authorized shares of the Series Preferred.

F. The rights, preferences, privileges, restrictions and other matters relating to the Series Preferred are as follows:

1. DIVIDEND RIGHTS.

(a) From and after the date of the issuance of each share of Series Preferred, dividends at the rate of eight percent (8%) of the Original Issue Price (as defined below) per annum shall accrue on such shares of Series Preferred (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization affecting such shares) (the "*Accruing Dividends*"). Accruing Dividends shall accrue from day to day, whether or not earned or declared, and shall be cumulative, provided however, the Company shall be under no obligation to pay such Accruing Dividends, except upon a Liquidation Event (as defined below).

(b) The "*Original Issue Price*" of the Series Preferred shall be \$1.375 (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares after the filing date hereof).

(c) So long as any shares of Series Preferred are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on the Common Stock, or purchase, redeem or otherwise acquire for value any shares of Common Stock until all dividends as set forth in Section 1(a) above on the Series Preferred shall have been paid or declared and set apart, except for:

(i) acquisitions of Common Stock by the Company pursuant to agreements which permit the Company to repurchase such shares at cost (or the lesser of cost or fair market value) upon termination of services to the Company; or

(iii) acquisitions of Common Stock in exercise of the Company's right of first refusal to repurchase such shares.

(d) In the event dividends are paid on any share of Common Stock, the Company shall pay an additional dividend on all outstanding shares of Series Preferred in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Common Stock.

(e) The provisions of Sections 1(c) and 1(d) shall not apply to a dividend payable solely in Common Stock, or any repurchase of any outstanding securities of the Company that is approved by (i) the Board and (ii) the Series Preferred as may be required by this Certificate of Incorporation.

2. VOTING RIGHTS.

(a) **General Rights.** Each holder of shares of the Series Preferred shall be entitled to the number of votes equal to the number of shares of Common Stock into which such shares of Series Preferred could be converted (pursuant to Section 5 hereof) immediately after the close of business on the record date fixed for such meeting or the effective date of such written consent and shall have voting rights and powers equal to the voting rights and powers of the Common Stock and shall be entitled to notice of any stockholders' meeting in accordance with the bylaws of the Company. Except as otherwise provided herein or as required by law, the Series Preferred shall vote together with the Common Stock at any annual or special meeting of the stockholders and not as a separate class, and may act by written consent in the same manner as the Common Stock.

(b) **Separate Vote of Series Preferred.** For so long as at least twenty-five percent (25%) of the shares of Series Preferred issued by the Company (subject to adjustment for any stock split, reverse stock split or other similar event affecting the Series Preferred after the filing date hereof) remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of at least seventy-five

percent (75%) of the outstanding Series Preferred shall be necessary for effecting or validating the following actions:

(i) Any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series Preferred;

(ii) Any increase or decrease in the authorized number of shares of Common Stock or Preferred Stock;

(iii) Any authorization or any designation, whether by reclassification or otherwise, or any issuance, whether pursuant to Section C or otherwise, of any new class or series of stock or any other securities convertible into equity securities of the Company ranking on a parity with or senior to the Series Preferred in right of redemption, liquidation preference, voting or dividend rights or any increase in the authorized or designated number of any such new class or series;

(iv) Any redemption, repurchase, payment or declaration of dividends or other distributions with respect to Common Stock or Preferred Stock other than dividends required pursuant to Section I hereof (except for acquisitions of Common Stock by the Company permitted by Section I(c)(i) and (ii) hereof);

(v) Any agreement by the Company or its stockholders regarding an Asset Transfer or Acquisition (each as defined in Section 4);

(vi) Any declaration or payment of dividends on any equity securities of the Company ranking on parity with or junior to the Series Preferred in right of redemption, liquidation preference, voting or dividend rights (other than Common Stock dividends);

(vii) Any transaction or series of transactions where the Company would incur an obligation in excess of \$500,000 in the aggregate;

(viii) Any increase or decrease in the authorized number of members of the Company's Board, or members of the Board shall be elected as follows:

(ix) Any transfer of voting securities representing twenty percent (20%) or more of the outstanding voting securities in a transaction or series of transactions during a 12-month period, to any party other than the Company (excluding transfers by stockholders to their affiliates).

(c) **Election of Board of Directors.** For so long as the authorized size of the Board is five (5) or more directors, the members of the Board shall be elected as follows:

(i) The holders of Series Preferred, voting as a separate class, shall be entitled to elect three (3) members of the Board (the "*Series Preferred Directors*") at

each meeting or pursuant to each consent of the Company's stockholders for the election of directors, and to remove from office such directors and to fill any vacancy caused by the resignation, death or removal of such directors.

(ii) The holders of Common Stock, voting as a separate class, shall be entitled to elect two (2) members of the Board (the "*Common Directors*") at each meeting or pursuant to each consent of the Company's stockholders for the election of directors, and to remove from office such directors and to fill any vacancy caused by the resignation, death or removal of such directors.

(iii) Any remaining members of the Board shall be elected by a majority of the holders of the Series Preferred and the Common Stock voting together as a single class, on an as-converted basis.

3. LIQUIDATION RIGHTS.

(a) Upon any liquidation, dissolution, or winding up of the Company, whether voluntary or involuntary (a "*Liquidation Event*"), before any distribution or payment shall be made to the holders of any Common Stock, the holders of Series Preferred shall be entitled to be paid out of the assets of the Company legally available for distribution, or the consideration received in such transaction (the "*Available Funds and Assets*"), for each share of Series Preferred held by them, an amount per share of Series Preferred equal to the Original Issue Price plus all unpaid Accruing Dividends or any other declared and unpaid dividends on the Series Preferred. If, upon any such Liquidation Event, the assets of the Company (or the consideration received in the Acquisition or Asset Transfer (as such terms are defined in Section 4 below) shall be insufficient to make payment in full to all holders of Series Preferred of the liquidation preference set forth in this Section 3(a), then such assets (or consideration) shall be distributed among the holders of Series Preferred at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

(b) After the payment of the full liquidation preference of the Series Preferred as set forth in Section 3(a) above, the remaining assets of the Company legally available for distribution (or the consideration received by the Company or its stockholders in the Acquisition or Asset Transfer), if any, shall be distributed ratably to the holders of the Common Stock.

(c) Notwithstanding paragraphs (a) and (b) above, solely for purposes of determining the amount each holder of shares of Series Preferred is entitled to receive with respect to a Liquidation Event, at the closing of any Liquidation Event with respect to which amounts are to be legally distributed to the Company's stockholders and at each date after such closing on which additional amounts (such as amount payments, escrow amounts or other contingent payments) are to be legally distributed to the Company's stockholders as a result of such Liquidation Event (each, a "*Payment Date*"), each holder of Series Preferred shall be entitled to be paid, out of the Available Funds and Assets, on such Payment Date an amount for each share of Series Preferred held upon the closing of such Liquidation Event equal to: (1) the greater of the amount of cash, securities and other property to which such holder would have

Rights"):

The holders of the Series Preferred shall have the following rights with respect to the conversion of the Series Preferred into shares of Common Stock (the "*Conversion*"):

5. CONVERSION RIGHTS.

(c) In any Acquisition or Asset Transfer, if the consideration to be received is securities of a corporation or other property other than cash, its value will be deemed its fair market value as determined in good faith by the Board on the date such determination is made

(b) For the purposes of this Section 4: (i) "*Acquisition*" shall mean any consolidation or merger of the Company with or into any other corporation or other entity or person, or any other corporate reorganization, in which the capital stock of the Company immediately prior to such consolidation, merger or reorganization, represents less than fifty percent (50%) of the voting power of the surviving entity (or, if the surviving entity is a wholly owned subsidiary, its parent) immediately after such consolidation, merger or reorganization; or (B) any transaction or series of related transactions to which the Company is a party in which an excess of fifty percent (50%) of the Company's voting power is transferred; provided that an Acquisition shall not include (x) any consolidation or merger effected exclusively to change the domicile of the Company, or (y) any transaction or series of transactions principally for bona fide equity financing purposes in which cash is received by the Company or any successor or independence of the Company is cancelled or converted or a combination thereof; and (ii) "*Asset Transfer*" shall mean a sale, lease, exclusive license or other disposition of all or substantially all of the assets of the Company.

(a) In the event that the Company is a party to an Acquisition or Asset Transfer (as hereinafter defined), then each holder of Series Preferred shall be entitled to receive, for each share of Series Preferred then held, out of the proceeds of such Acquisition or Asset Transfer, the greater of the amount of cash, securities or other property to which such holder would be entitled to receive in a Liquidation Event pursuant to (i) Section 3(a) above or (ii) Section 3(c) above.

4. ASSET TRANSFER OR ACQUISITION RIGHTS.

the Liquidation Event.

been entitled (after taking into account the operation of this Section 3(c) with respect to all series of Preferred Stock and treating the distributions to the Company's stockholders made upon such Payment Date and all prior Payment Dates as having been made simultaneously upon the closing of the Liquidation Event): (i) pursuant to paragraphs (a) and (b) above or (ii) if all shares of Series Preferred had converted to Common Stock pursuant to Section 5 as of immediately prior to the closing of such Liquidation Event; reduced by (2) the amount per share paid in the aggregate to such holder with respect to such holder's Series Preferred on all prior Payment Dates, provided, however, that the fair market value of any non-cash consideration that may be distributed to the Company's stockholders on each Payment Date shall be determined at the date of the closing of the Liquidation Event, unless otherwise specified in the definitive agreement for the Liquidation Event.

(a) **Optional Conversion.** Subject to and in compliance with the provisions of this Section 5, any shares of Series Preferred may, at the option of the holder, be converted at any time into fully-paid and nonassessable shares of Common Stock. The number of shares of Common Stock to which a holder of Series Preferred shall be entitled upon conversion shall be the product obtained by multiplying the "*Series Preferred Conversion Rate*" then in effect (determined as provided in Section 5(b)) by the number of shares of Series Preferred being converted.

(b) **Series Preferred Conversion Rate.** The conversion rate in effect at any time for conversion of the Series Preferred (the "*Series Preferred Conversion Rate*") shall be the quotient obtained by dividing the Original Issue Price of the Series Preferred by the "*Series Preferred Conversion Price*," calculated as provided in Section 5(c).

(c) **Series Preferred Conversion Price.** The conversion price for the Series Preferred shall initially be the Original Issue Price of the Series Preferred (the "*Series Preferred Conversion Price*"). Such initial Series Preferred Conversion Price shall be adjusted from time to time in accordance with this Section 5. All references to the Series Preferred Conversion Price herein shall mean the Series Preferred Conversion Price as so adjusted.

(d) **Mechanics of Conversion.** Each holder of Series Preferred who desires to convert the same into shares of Common Stock pursuant to this Section 5 shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Company or any transfer agent for the Series Preferred, and shall give written notice to the Company at such office that such holder elects to convert the same. Such notice shall state the number of shares of Series Preferred being converted. Thereupon, the Company shall promptly issue and deliver at such office to such holder a certificate or certificates for the number of shares of Common Stock to which such holder is entitled and shall promptly pay (i) in cash or, to the extent sufficient funds are not then legally available therefor, in Common Stock (at the Common Stock's fair market value determined by the Board as of the date of such conversion), any declared and unpaid dividends on the shares of Series Preferred being converted and (ii) in cash (at the Common Stock's fair market value determined by the Board as of the date of conversion) the value of any fractional share of Common Stock otherwise issuable to any holder of Series Preferred. Such conversion shall be deemed to have been made at the close of business on the date of such surrender of the certificates representing the shares of Series Preferred to be converted, and the person entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock on such date.

(e) **Adjustment for Stock Splits and Combinations.** If at any time or from time to time after the date that the first share of Series Preferred is issued (the "*Original Issue Date*") the Company effects a subdivision of the outstanding Common Stock without a corresponding subdivision of the Preferred Stock, the Series Preferred Conversion Price in effect immediately before that subdivision shall be proportionately decreased. Conversely, if at any time or from time to time after the Original Issue Date the Company combines the outstanding shares of Common Stock into a smaller number of shares without a corresponding combination of the Preferred Stock, the Series Preferred Conversion Price in effect immediately before the

combination shall be proportionately increased. Any adjustment under this Section 5(e) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(f) Adjustment for Common Stock Dividends and Distributions. If at any time or from time to time after the Original Issue Date the Company pays to holders of Common Stock a dividend or other distribution in additional shares of Common Stock without a corresponding dividend or other distribution to holders of Preferred Stock, the Series Preferred Conversion Price then in effect shall be decreased as of the time of such issuance, as provided below:

(i) The Series Preferred Conversion Price shall be adjusted by multiplying the Series Preferred Conversion Price then in effect by a fraction equal to

(A) the numerator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance, and

(B) the denominator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

(iii) If the Company fixes a record date to determine which holders of Common Stock are entitled to receive such dividend or other distribution, the Series Preferred Conversion Price shall be fixed as of the close of business on such record date and the number of shares of Common Stock shall be calculated immediately prior to the close of business on such record date; and

(iiii) If such record date is fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Series Preferred Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Series Preferred Conversion Price shall be adjusted pursuant to this Section 5(f) to reflect the actual payment of such dividend or distribution.

(g) Adjustment for Reclassification, Exchange, Substitution, Reorganization, Merger or Consolidation. If at any time or from time to time after the Original Issue Date, the Common Stock issuable upon the conversion of the Series Preferred is changed into the same or a different number of shares of any class or classes of stock, whether by recapitalization, reclassification, merger, consolidation or otherwise (other than an Acquisition or Asset Transfer as defined in Section 4 or a subdivision or combination of shares or stock dividend or a reorganization, merger, consolidation or sale of assets provided for elsewhere in this Section 5), in any such event each holder of Series Preferred shall then have the right to convert such stock into the kind and amount of stock and other securities and property receivable upon such recapitalization, reclassification, merger, consolidation or other change by holders of the maximum number of shares of Common Stock into which such shares of Series Preferred could have been converted immediately prior to such recapitalization, reclassification, merger, consolidation or change, all subject to further adjustment as provided herein or with respect to

(iii) For the purpose of making any adjustment required under this Section 5(h), the aggregate consideration received by the Company for any issue or sale of securities (the "*Aggregate Consideration*") shall be defined as: (A) to the extent it consists of

(ii) No adjustment shall be made to the Series Preferred Conversion Price in an amount less than one cent per share. Any adjustment otherwise required by this Section 5(h) that is not required to be made due to the preceding sentence shall be included in any subsequent adjustment to the Series Preferred Conversion Price.

For the purposes of the preceding sentence, the number of shares of Common Stock deemed to be outstanding as of a given date shall be the sum of (A) the number of shares of Common Stock outstanding, (B) the number of shares of Common Stock into which the then outstanding shares of Series Preferred could be converted if fully converted on the day immediately preceding the given date, and (C) the number of shares of Common Stock which are issuable upon the exercise or conversion of all other rights, options and convertible securities outstanding on the day immediately preceding the given date.

(B) the denominator of which shall be the number of shares of Common Stock deemed outstanding (as determined below) immediately prior to such issue or sale plus the total number of Additional Shares of Common Stock so issued

(A) the numerator of which shall be (A) the number of shares of Common Stock deemed outstanding (as determined below) immediately prior to such issue or sale, plus (B) the number of shares of Common Stock which the Aggregate Consideration (as defined below) received or deemed received by the Company for the total number of Additional Shares of Common Stock so issued would purchase at such then-existing Series Preferred Conversion Price, and

fraction equal to:

(i) If at any time or from time to time after the Original Issue Date, the Company issues or sells, or is deemed by the express provisions of this Section 5(h) to have issued or sold, Additional Shares of Common Stock (as defined below), other than as provided in Section 5(e), 5(f) or 5(g) above, for an Effective Price (as defined below) less than the then effective Series Preferred Conversion Price (a "*Qualifying Dilutive Issuance*"), then and in each such case, the then existing Series Preferred Conversion Price shall be reduced, as of the opening of business on the date of such issue or sale, to a price determined by multiplying the Series Preferred Conversion Price in effect immediately prior to such issuance or sale by a

(h) Sale of Shares Below Series Preferred Conversion Price.

such other securities or property by the terms thereof. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 5 with respect to the rights of the holders of Series Preferred after the capital reorganization to the end that the provisions of this Section 5 (including adjustment of the Series Preferred Conversion Price then in effect and the number of shares issuable upon conversion of the Series Preferred) shall be applicable after that event and be as nearly equivalent as practicable.

cash, be computed at the gross amount of cash received by the Company before deduction of any underwriting or similar commissions, compensation or concessions paid or allowed by the Company in connection with such issue or sale and without deduction of any expenses payable by the Company, (B) to the extent it consists of property other than cash, be computed at the fair value of that property as determined in good faith by the Board, and (C) if Additional Shares of Common Stock, Convertible Securities (as defined below) or rights or options to purchase either Additional Shares of Common Stock or Convertible Securities are issued or sold together with other stock or securities or other assets of the Company for a consideration which covers both, be computed as the portion of the consideration so received that may be reasonably determined in good faith by the Board to be allocable to such Additional Shares of Common Stock, Convertible Securities or rights or options

(iv) For the purpose of the adjustment required under this Section 5(h), if the Company issues or sells (x) Preferred Stock or other stock, options, warrants, convertible stock or securities being herein referred to as "*Convertible Securities*", or (y) rights or options for the purchase of Additional Shares of Common Stock or Convertible Securities and if the Effective Price of such Additional Shares of Common Stock is less than the Series Preferred Conversion Price, in each case the Company shall be deemed to have issued at the time of the issuance of such rights or options or Convertible Securities the maximum number of Additional Shares of Common Stock issuable upon exercise or conversion thereof and to have received as consideration for the issuance of such shares an amount equal to the total amount of the consideration, if any, received by the Company for the issuance of such rights or options or Convertible Securities plus:

(A) in the case of such rights or options, the minimum amounts of consideration, if any, payable to the Company upon the exercise of such rights or options, and

(B) in the case of Convertible Securities, the minimum amounts of consideration, if any, payable to the Company upon the conversion thereof (other than by cancellation of liabilities or obligations evidenced by such Convertible Securities); *provided that* if the minimum amounts of such consideration cannot be ascertained, but are a function of antidilution or similar protective clauses, the Company shall be deemed to have received the minimum amounts of consideration without reference to such clauses.

(C) If the minimum amount of consideration payable to the Company upon the exercise or conversion of rights, options or Convertible Securities is reduced over time or on the occurrence or non-occurrence of specified events other than by reason of antidilution adjustments, the Effective Price shall be recalculated using the figure to which such minimum amount of consideration is reduced; *provided further*, that if the minimum amount of consideration payable to the Company upon the exercise or conversion of such rights, options or Convertible Securities is subsequently increased, the Effective Price shall be again recalculated using the increased minimum amount of consideration payable to the Company upon the exercise or conversion of such rights, options or Convertible Securities

(D) No further adjustment of the Series Preferred Conversion Price, as adjusted upon the issuance of such rights, options or Convertible Securities, shall be made as a result of the actual issuance of Additional Shares of Common Stock or the exercise of any such rights or options or the conversion of any such Convertible Securities. If any such rights or options or the conversion privilege represented by any such Convertible Securities shall expire without having been exercised, the Series Preferred Conversion Price as adjusted upon the issuance of such rights, options or Convertible Securities shall be readjusted to the Series Preferred Conversion Price which would have been in effect had an adjustment been made on the basis that the only Additional Shares of Common Stock so issued were the Additional Shares of Common Stock, if any, actually issued or sold on the exercise of such rights or options or rights of conversion of such Convertible Securities, and such Additional Shares of Common Stock, if any, were issued or sold for the consideration actually received by the Company upon such exercise, plus the consideration, if any, actually received by the Company for the granting of all such rights or options, whether or not exercised, plus the consideration received for issuing or selling the Convertible Securities actually converted, plus the consideration, if any, actually received by the Company (other than by cancellation of liabilities or obligations evidenced by such Convertible Securities) on the conversion of such Convertible Securities, *provided* that such readjustment shall not apply to prior conversions of Series Preferred.

(v) For the purpose of making any adjustment to the Conversion Price of the Series Preferred required under this Section 5(h), "*Additional Shares of Common Stock*" shall mean all shares of Common Stock issued by the Company or deemed to be issued pursuant to this Section 5(h) (including shares of Common Stock subsequently reacquired or retired by the Company), other than:

(A) shares of Common Stock issued upon conversion of the Series Preferred;

(B) shares of Common Stock or Convertible Securities issued to employees, officers or directors of, or consultants or advisors to the Company or any subsidiary pursuant to stock purchase or stock option plans or other arrangements that are approved by either (i) the Board, including the affirmative vote of each of the directors elected in accordance with the provisions of Section 1.2(a) of that certain Voting Agreement, dated June 23, 2004, as it may be amended from time to time, by and among the Company and certain stockholders (the "*Series A Directors*"), or (ii) the holders of at least seventy-five percent (75%) of the outstanding Series Preferred;

(C) shares of Common Stock issued pursuant to the exercise of Convertible Securities outstanding as of the Original Issue Date,

(D) shares of Common Stock issued or issuable in connection with an underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, prior to or in connection with which all outstanding shares of Preferred Stock will be converted into Common Stock

(E) shares of Common Stock or Convertible Securities issued pursuant to any equipment loan or leasing arrangement, real property leasing arrangement or debt financing from a bank or similar financial institution approved by either (i) the Board, including all of the Series A Directors, or (ii) the holders of at least seventy-five percent (75%) of the outstanding Series Preferred; and

(F) any Common Stock or Convertible Securities issued in connection with strategic transactions involving the Company and other entities, including (i) joint ventures, manufacturing, marketing or distribution arrangements or (ii) technology transfer or development arrangements; *provided* that the issuance of shares therein has been approved by either (i) the Board, including all of the Series A Directors, or (ii) the holders of at least seventy-five percent (75%) of the outstanding Series Preferred.

(G) any Common Stock or Convertible Securities issued to holders of any outstanding shares of Series Preferred in a transaction or series of transactions approved by either (i) the Board, including all of the Series A Directors, or (ii) the holders of at least seventy-five percent (75%) of the outstanding Series Preferred.

References to Common Stock in the subsections of this clause (v) above shall mean all shares of Common Stock issued by the Company or deemed to be issued pursuant to this Section 5(h). The "*Effective Price*" of Additional Shares of Common Stock shall mean the quotient determined by dividing the total number of Additional Shares of Common Stock issued or sold, or deemed to have been issued or sold by the Company under this Section 5(h), into the Aggregate Consideration received, or deemed to have been received by the Company for such issue under this Section 5(h), for such Additional Shares of Common Stock. In the event that the number of shares of Additional Shares of Common Stock or the Effective Price cannot be ascertained at the time of issuance, such Additional Shares of Common Stock shall be deemed issued immediately upon the occurrence of the first event that makes such number of shares or the Effective Price, as applicable, determinable.

(vi) In the event that the Company issues or sells, or is deemed to have issued or sold, Additional shares of Common Stock in a Qualifying Dilutive Issuance (the "*First Dilutive Issuance*"), then in the event that the Company issues or sells, or is deemed to have issued or sold, Additional Shares of Common Stock in a Qualifying Dilutive Issuance other than the First Dilutive Issuance as a part of the same transaction or series of related transactions as the First Dilutive Issuance (a "*Subsequent Dilutive Issuance*"), then and in each such case upon a Subsequent Dilutive Issuance the Series Preferred Conversion Price shall be reduced to the Series Preferred Conversion Price that would have been in effect had the First Dilutive Issuance and each Subsequent Dilutive Issuance all occurred on the closing date of the First Dilutive Issuance.

(i) **Certificate of Adjustment.** In each case of an adjustment or readjustment of the Series Preferred Conversion Price for the number of shares of Common Stock or other securities issuable upon conversion of the Series Preferred, if the Series Preferred is then convertible pursuant to this Section 5, the Company, at its expense, shall compute such adjustment or readjustment in accordance with the provisions hereof and shall, upon request,

prepare a certificate showing such adjustment or readjustment, and shall mail such certificate, by first class mail, postage prepaid, to each registered holder of Series Preferred so requesting at the holder's address as shown in the Company's books. The certificate shall set forth such adjustment or readjustment, showing in detail the facts upon which such adjustment or readjustment is based, including a statement of (i) the consideration received or deemed to be received by the Company for any Additional Shares of Common Stock issued or sold or deemed to have been issued or sold, (ii) the Series Preferred Conversion Price at the time in effect, (iii) the number of Additional Shares of Common Stock and (iv) the type and amount, if any, of other property which at the time would be received upon conversion of the Series Preferred. Failure to request or provide such notice shall have no effect on any such adjustment.

(j) **Notices of Record Date.** Upon (i) any taking by the Company of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend or other distribution, or (ii) any Acquisition (as defined in Section 4) or other capital reorganization of the Company, any reclassification or recapitalization of the capital stock of the Company, any merger or consolidation of the Company with or into any other corporation, or any Asset Transfer (as defined in Section 4), or any voluntary or involuntary dissolution, liquidation or winding up of the Company, the Company shall mail to each holder of Series Preferred at least ten (10) days prior to the record date specified therein (or such shorter period approved by the holders of seventy-five percent (75%) of the outstanding Series Preferred) a notice specifying (A) the date on which any such record is to be taken for the purpose of such dividend or distribution and a description of such dividend or distribution, (B) the date on which any such Acquisition, reorganization, reclassification, transfer, consolidation, merger, Asset Transfer, dissolution, liquidation or winding up is expected to become effective, and (C) the date, if any, that is to be fixed as to when the holders of record of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) for securities or other property deliverable upon such Acquisition, reorganization, reclassification, transfer, consolidation, merger, Asset Transfer, dissolution, liquidation or winding up.

(k) Automatic Conversion.

(i) Each share of Series Preferred shall automatically be converted into shares of Common Stock, based on the then-effective Series Preferred Conversion Price, (A) at any time upon the affirmative election of the holders of at least seventy-five percent (75%) of the outstanding shares of the Series Preferred, or (B) immediately upon the closing of a firm underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Company in which (i) the per share price is at least \$6.875 (as adjusted for stock splits, dividends, recapitalizations and the like after the filing date hereof), and (ii) the gross cash proceeds to the Company (before underwriting discounts, commissions and fees) are at least \$20,000,000. Upon such automatic conversion, any declared and unpaid dividends shall be paid in accordance with the provisions of Section 5(d).

(ii) Upon the occurrence of either of the events specified in Section 5(k)(i) above, the outstanding shares of Series Preferred shall be converted automatically

without any further action by the holders of such shares and whether or not the certificates representing such shares are surrendered to the Company or its transfer agent; *provided, however*, that the Company shall not be obligated to issue certificates evidencing the shares of Common Stock issuable upon such conversion unless the certificates evidencing such shares of Series Preferred are either delivered to the Company or its transfer agent as provided below, or the holder notifies the Company or its transfer agent that such certificates have been lost, stolen or destroyed and executes an agreement satisfactory to the Company to indemnify the Company from any loss incurred by it in connection with such certificates. Upon the occurrence of such automatic conversion of the Series Preferred, the holders of Series Preferred shall surrender the certificates representing such shares at the office of the Company or any transfer agent for the Series Preferred. Thereupon, there shall be issued and delivered to such holder promptly at such office and in its name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series Preferred surrendered were convertible on the date on which such automatic conversion occurred, and any declared and unpaid dividends shall be paid in accordance with the provisions of Section 5(d).

(1) **Special Mandatory Conversion.** In the event that any holder of shares of Series Preferred does not participate in a Qualified Financing (as defined below) by purchasing in the aggregate, in such Qualified Financing and within the time period specified by the Company (*provided* that the Company has given such holder at least twenty (20) business days written notice of the Qualified Financing), at least fifty percent (50%) of such holder's Pro Rata Amount (as defined below), then effective upon, subject to, and concurrently with, the consummation of the Qualified Financing, all shares of Series Preferred held by such holder shall automatically, and without any further action on the part of such holder, be converted on a share-for-share basis into shares of a newly created series of Preferred Stock (having such number of shares as the Board of Directors may by resolution fix), which newly created series shall be identical in all respects to the Series Preferred except that the conversion price of such series shall be fixed at the Series Preferred Conversion Price in effect immediately prior to the consummation of the Qualified Financing and shall not be subject to any further adjustment under Section 5(h) above and except that the terms of the new series may vary from the terms of the Series Preferred to the extent deemed necessary by the Board to accomplish the intent of this Section (such new series of Preferred Stock, the "*New Preferred Stock*"). The Board shall take all necessary actions to designate any such series of New Preferred Stock. For purposes of determining the number of shares of Series Preferred owned by a holder, and for determining the number of Offered Securities a holder of Series Preferred has purchased in a Qualified Financing, all shares of Series Preferred held by Affiliates of such holder shall be aggregated with such holder's shares and all Offered Securities purchased by Affiliates of such holder shall be aggregated with the Offered Securities purchased by such holder (*provided* that no shares or securities shall be attributed to more than one entity or person within any such group of Affiliated entities or persons). Upon such conversion (a "*Special Mandatory Conversion*"), any shares of Series Preferred so converted shall be cancelled and not subject to reissuance.

Upon a Special Mandatory Conversion, each holder of shares of Series Preferred converted pursuant to Section 5(1) shall surrender his, her or its certificate or certificates for all such shares to the Company at the place designated in such notice, and shall thereafter receive certificates for the number of shares of New Preferred Stock

to which such holder is entitled pursuant to this Section 5. All rights with respect to the Series Preferred converted pursuant to Section 5(l), including the rights, if any, to receive notices and vote (other than as a holder of New Preferred Stock), will terminate, except only the rights of the holders thereof, upon surrender of their certificate or certificates (therefor, to receive certificates for the number of shares of New Preferred Stock into which such Series Preferred has been converted, and payment of any declared but unpaid dividends thereon. If so required by the Company, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Company, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. As soon as practicable after the Special Mandatory Conversion and the surrender of the certificate or certificates for Series Preferred so converted, the Company shall cause to be issued and delivered to such holder, or on his, her or its written order, a certificate or certificates for the number of shares of New Preferred Stock issuable on such conversion in accordance with the provisions hereof.

All certificates evidencing shares of Series Preferred which are required to be surrendered for conversion in accordance with the provisions hereof shall, from and after the time of the Special Mandatory Conversion, be deemed to have been retired and cancelled, and the shares of Series A Preferred Stock converted pursuant to Section 5(l) represented thereby shall, from and after the time of the Special Mandatory Conversion, be deemed to have been converted into New Preferred Stock for all purposes, notwithstanding the failure of the holder or holders thereof to surrender such certificates on or prior to such date. The Company may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Series Preferred accordingly.

For purposes of this Section 5(l), the following definitions shall apply:

"Affiliate" shall mean, with respect to any holder of shares of Series Preferred, any person, entity or firm which, directly or indirectly, controls, is controlled by or is under common control with such holder, including, without limitation, any entity of which the holder is a partner or member, any partner, officer, director, member or employee of such holder and any venture capital fund now or hereafter existing of which the holder is a partner or member which is controlled by or under common control with one or more general partners of such holder or shares the same management company with such holder.

"Offered Securities" shall mean the equity securities of the Company set aside by the Board of Directors for purchase by holders of outstanding shares of Series Preferred in connection with a Qualified Financing, and offered to such holders.

"Pro Rata Amount" shall mean, with respect to any holder of Series Preferred, an amount equal to the ratio of (a) the number of shares of the Company's Common Stock (including all shares of Common Stock issuable or issued upon conversion of the Preferred Stock) which such holder of Series Preferred is deemed to be a holder immediately prior to the issuance of such Offered Securities to (b) the total number of shares of the Company's outstanding Common Stock (including all shares of Common Stock

issued or issuable upon conversion of the Preferred Stock or upon the exercise of any outstanding warrants or options) immediately prior to the issuance of the Offered Securities.

"Qualified Financing" shall mean a transaction designated by the Board as a "Qualified Financing."

(m) **Fractional Shares.** No fractional shares of Common Stock shall be issued upon conversion of Series Preferred. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series Preferred by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of any fractional share, the Company shall, in lieu of issuing any fractional share, pay cash equal to the product of such fraction multiplied by the fair market value of one share of Common Stock (as determined by the Board) on the date of conversion.

(n) **Reservation of Stock Issuable Upon Conversion.** The Company shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series Preferred, such number of its shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Series Preferred. If at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series Preferred, the Company will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purpose.

(o) **Notices.** Any notice required by the provisions of this Section 5 shall be in writing and shall be deemed effectively given: (i) upon personal delivery to the party to be notified; (ii) when sent by confirmed electronic mail or facsimile it sent during normal business hours of the recipient; if not, then on the next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with verification of receipt. All notices shall be addressed to each holder of record at the address of such holder appearing on the books of the Company.

(p) **Payment of Taxes.** The Company will pay all taxes (other than taxes based upon income) and other governmental charges that may be imposed with respect to the issue or delivery of shares of Common Stock upon conversion of shares of Series Preferred, excluding any tax or other charge imposed in connection with any transfer involved in the issue and delivery of shares of Common Stock in a name other than that in which the shares of Series Preferred so converted were registered.

6. NO REISSUANCE OF SERIES PREFERRED.

No shares or shares of Series Preferred acquired by the Company by reason of redemption, purchase, conversion or otherwise shall be reissued.

V.

A. The liability of the directors of the Company for monetary damages shall be eliminated to the fullest extent under applicable law.

B. The Company shall indemnify the directors to the fullest extent permissible under applicable law.

C. Any repeal or modification of this Article V shall only be prospective and shall not affect the rights under this Article V in effect at the time of the alleged occurrence of any action or omission to act giving rise to liability.

VI.

For the management of the business and for the conduct of the affairs of the Company, and in further definition, limitation and regulation of the powers of the Company, of its directors and of its stockholders or any class thereof, as the case may be, it is further provided that:

A. The management of the business and the conduct of the affairs of the Company shall be vested in its Board. The number of directors which shall constitute the whole Board shall be fixed by the Board in the manner provided in the Bylaws, subject to any restrictions which may be set forth in this Restated Certificate

B. The Board of Directors is expressly empowered to adopt, amend or repeal the Bylaws of the Company. The stockholders shall also have the power to adopt, amend or repeal the Bylaws of the Company, provided however, that, in addition to any vote of the holders of any class or series of stock of the Company required by law or by this Certificate of Incorporation, the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of the capital stock of the Company entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of the Bylaws of the Company.

C. The directors of the Company need not be elected by written ballot unless the Bylaws so provide

FOUR: This Amended and Restated Certificate of Incorporation has been duly approved by the Board of Directors of the Company.

FIVE: This Amended and Restated Certificate of Incorporation was approved by the holders of the requisite number of shares of said corporation in accordance with Section 228 of the DGCL. This Amended and Restated Certificate of Incorporation has been duly adopted in accordance with the provisions of Sections 242 and 245 of the DGCL by the stockholders of the Company.

IN WITNESS WHEREOF, ARTIELLE IMMUNOTHERAPEUTICS, INC. has caused this Amended and Restated Certificate of Incorporation to be signed by its Secretary this 15th day of December, 2005

ARTIELLE IMMUNOTHERAPEUTICS, INC.

Signature: /s/ Gilbert N. Miller
 Gilbert N. Miller
 Secretary

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