
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 8-K

Current Report

Pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 30, 2024

RESPIRERX PHARMACEUTICALS INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

1-16467
(Commission
File Number)

33-0303583
(I.R.S Employer
Identification No.)

126 Valley Road, Suite C
Glen Rock, New Jersey
(Address of principal executive offices)

07452
(Zip Code)

Registrant's telephone number, including area code: (201) 444-4947

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
N/A	N/A	N/A

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 5.03. Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

On August 28, 2024, the Company's Board of Directors authorized an amendment to the Company's certificate of incorporation to amend and restate its Certificate of Designation of Series I 8% Redeemable Preferred Stock ("Amended and Restated Series I Certificate of Designation") and authorized an amendment to the Company's certificate of incorporation to amend and restate its Series J 8% Voting, Participating, Redeemable Preferred Stock ("Amended and Restated Series J Certificate of Designation"), both subject to the consent of a majority of the holders prior to effecting such amendments, consenting separately, of the holders of the Series I Preferred Stock and Series J Preferred Stock, respectively, which consents were received on August 28, 2024. On August 30, 2024, the Company filed both the Amended and Restated Series I Certificate of Designation and the Amended and Restated Series J Certificate of Designation with the Secretary of State of the State of Delaware.

The Amended and Restated Series I Certificate of Designation sets forth the preferences, rights and limitations of the Series I Preferred Stock, a summary of which is as follows:

Number of Shares: The number of shares designated as Series I Preferred Stock is 5,500 (which is not subject to increase without the written consent of a majority of the holders (each a "Holder") of the Series I Preferred Stock or as otherwise set forth in the Certificate of Designation).

Par value: The par value of each share of Series I Preferred Stock is \$0.001.

Stated Value: The initial Stated Value of each share of Series I Preferred Stock is \$100.00.

Dividend: The Company must pay a dividend on the Series I Preferred Stock at a rate per share (as a percentage of the Stated Value per share) of 8% per annum, payable annually within 15 calendar days of the end of each fiscal year of the Company, based on a 365-day year, in duly authorized, validly issued, fully paid and non-assessable shares of Series I Preferred Stock, which may include fractional shares of Series I Preferred Stock. Dividends shall accrue daily commencing on the Original Issue Date, as defined in the Amended and Restated Series I Certificate of Designation. The dividend to be paid at the end of the first fiscal year after closing and during the year of redemption may be a partial period.

Redemption: means the cancellation of the Series I Preferred Stock held by each holder at the time of the payment of the Eligible Payment Amount to such holders.

Eligible Payment: The Maximum Appreciated Price (unless a lesser price is agreed by the Corporation and the holder) multiplied by the number of shares of common stock corresponding to the number of Series I Preferred Shares divided by the Base Measurement Price multiplied by the Stated Value.

Eligible Payment Event: In addition to the Fundamental Transactions as defined in the Amended and Restated Certificate of Designation that may cause an Eligible Payment Event, if in any consecutive twelve (12) month period, which may not be a calendar year, any of the following events occur, such events shall cause an Eligible Payment: (i) any license, sublicense, joint venture or similar transaction resulting in one or more payments within any consecutive twelve (12) month period (which need not be a calendar year) which aggregate to a total of at least \$15,000,000.00, or (ii) any milestone payment or series of milestone payments with respect to research and development within any consecutive twelve (12) month period (which need not be a calendar year) which aggregate to a total of at least \$15,000,000.00, or (iii) receipt of royalties in any consecutive twelve month period (which need not be a calendar year) of at least \$15,000,000.00 or (iv) any event or series of events resulting in the Corporation's receipt of an amount deemed by the Corporation's Board of Directors to establish an Eligible Payment Event but shall not include a transaction in which the Corporation is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

Base Measurement Price: means \$0.0015 per share and shall be utilized to calculate the number of shares of common stock that would be issued if the shares of Series I Preferred Stock were to convert into common stock, even though such conversion does not take place, and shall be further used for measurement of the amount of Eligible Payment to be received by the holders of the Series I Preferred Stock in the event of an Eligible Payment Event.

Maximum Appreciated Price: means \$0.02 per share of common stock or its equivalent for measurement purposes, even if not issued, or any lesser amount designated by a holder and agreed by the Corporation.

Voting Rights: Each share of Series I Preferred Stock shall be entitled to one vote for each share of Series I Preferred Stock and shall only vote as a class to the extent that under the Delaware General Corporation Law ("DGCL") the vote of the holders of the Series I Preferred Stock, voting separately as a class or series, as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the then outstanding shares of the Series I Preferred Stock. In addition to the above, any action that would reduce the rights or privileges of the Series I Preferred Stock will require an affirmative vote or consent of the holders of at least a majority of the then outstanding shares of the Series I Preferred Stock.

Liquidation Preferences: Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a "Liquidation"), no distribution shall be made to the holders of any shares of capital stock of the Corporation unless, prior thereto, the holders of Series I Preferred Stock shall have received out of the available assets, whether capital or surplus, of the Corporation (i) an amount equal to 100% of the Stated Value, plus any accrued and unpaid dividends thereon and any other fees or liquidated damages owing thereon, for each share of Series I Preferred Stock plus (ii) an amount equal to a pro rata portion of the Eligible Payment Amount less any stated amount already received, if any. The distribution shall result in a Redemption. If the assets of the Corporation shall be insufficient to pay in full such amounts due the holders of Series I Preferred Stock or any holders of another class that is parri passu with the holders of Series I Preferred Stock ("Series I Pari Passu Holders"), then the entire assets shall be distributed ratably among the holders of Series I Preferred Stock and Series I Pari Passu Holders in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full and such distribution shall result in a Redemption. A Fundamental Transaction, or a Change of Control Transaction as defined in the Amended and Restated Series I Certificate of Designation shall be deemed to be a Liquidation. The Corporation shall mail written notice of any such Liquidation, not less than 30 calendar days prior to the payment date stated therein, to each Holder.

Restrictions on Transfer: Except for transfers to an immediate family member or an Affiliate (as defined in the Amended and Restated Series I Certificate of Designation, and which includes trusts of which the holder or holders are grantors), holders of Series I Preferred Stock may not, directly or indirectly, give, sell, assign, pledge, encumber or otherwise dispose of, transfer or permit to be transferred any shares of Series I Preferred Stock held by such holder, and any such purported transfer would have no force or effect and would not be recognized by the Company.

THE FOREGOING SUMMARY OF THE PREFERENCES, RIGHTS, AND LIMITATIONS OF THE SERIES I PREFERRED STOCK IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO THE AMENDED NAD RESTATED SERIES I CERTIFICATE OF DESIGNATION FOR THE SERIES I PREFERRED STOCK, WHICH IS FILED AS EXHIBIT 3.1 TO THIS CURRENT REPORT ON FORM 8-K.

The Series J Certificate of Designation sets forth the preferences, rights and limitations of the Series J Preferred Stock, a summary of which is as follows:

Number of Shares: The number of shares designated as Series J Preferred Stock is 15,000 (which is not subject to increase without the written consent of a majority of the holders (each a “Series J Holder”) of the Series J Preferred Stock or as otherwise set forth in the Series J Certificate of Designation).

Par value: The par value of each share of Series J Preferred Stock is \$0.001.

Stated Value: The initial Stated Value of each share of Series J Preferred Stock is \$100.00.

Dividend: The Company must pay a dividend on the Series J Preferred Stock at a rate per share (as a percentage of the Stated Value per share) of 8% per annum, payable annually within 15 calendar days of the end of each fiscal year of the Company, based on a 365-day year, in duly authorized, validly issued, fully paid and non-assessable shares of Series J Preferred Stock, which may include fractional shares of Series J Preferred Stock. Dividends shall accrue daily commencing on the Original Issue Date, as defined in the Series J Certificate of Designation. The dividend to be paid at the end of the first fiscal year after closing and during the year of Redemption may be a partial period.

Redemption: Redemption shall happen upon the payment of an Eligible Payment which takes place upon the occurrence of an Eligible Payment Event, as both terms are defined in the Series J Certificate of Designation.

Eligible Payment: The Maximum Appreciated Price, (unless a lesser price is agreed by the Corporation and the Holder) multiplied by the number of shares of common stock corresponding to the number of Series J Preferred Shares divided by the Base Measurement Price multiplied by the Stated Value.

Eligible Payment Event: “ In addition to the Fundamental Transactions that may cause an Eligible Payment Event as described in Section 5(b), if in any consecutive twelve (12) month period, which may not be a calendar year, any of the following events occur, such events shall cause an Eligible Payment: (i) any license, sublicense, joint venture or similar transaction resulting in one or more payments within any consecutive twelve (12) month period (which need not be a calendar year) which aggregate to a total of at least \$20,000,000.00, or (ii) any milestone payments with respect to research and development within any consecutive twelve (12) month period (which need not be a calendar year) which aggregate to a total of at least \$20,000,000.00, or (iii) receipt of royalties in any consecutive twelve month period (which need not be a calendar year) of at least \$20,000,000.00 or (iv) any event or series of events resulting in the Corporation’s receipt of an amount deemed by the Corporation’s Board of Directors to establish an Eligible Payment Event but shall not include a transaction in which the Corporation is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

Base Measurement Price: means \$0.002 per share and shall be utilized to calculate the number of shares of Common Stock that would be issued if the shares of Series J Preferred Stock were to convert into common stock, even though such conversion does not take place, and shall be used to determine the number of votes for the Series J Preferred Stock as well as for measurement of the amount of Eligible Payment to be received by the holders of the Series J Preferred Stock in the event of an Eligible Payment Event.

Maximum Appreciated Price: means the lesser of (i) the closing price per share of common stock or its equivalent if the common stock is then listed or admitted to trading on a Nasdaq stock exchange or other stock exchange or over the counter market or other securities market which reports closing sale prices on the trading day on which an Eligible Payment Event is publicly announced prior to the opening of financial markets on such date, or the trading day following the public announcement of the Eligible Payment Event if announced after the opening of the financial markets on the date of the Eligible Payment Event, or (ii) the sum of any upfront payments and milestone amounts, if any associated with an Eligible Payment Event divided by the number of shares of Common Stock outstanding on such date, inclusive of any shares to be issued upon conversion of any convertible debt inclusive of accrued unpaid interest that is the subject of conversion notices received but not yet processed and inclusive of any shares of Common Stock issuable upon conversion of any convertible preferred stock inclusive of accrued dividends in-kind that are the subject of conversion notices received but not yet processed and shares of Common Stock issuable upon exercise of stock options or warrants that are the subject of exercise notices received but not yet processed or any securities convertible or exercisable into Common Stock for which notices of conversion or exercise have been received but not yet processed, or (iii) \$0.03 (3 cents).”

Voting Rights: Each share of Series J Preferred Stock shall be entitled to that number of votes, which shall be eligible to vote along with the common stockholders, or, as the case may be, when voting as a class, that is equal to one hundred (100x) times the number calculated by dividing the number of shares of Series J Preferred Stock by the Base Measurement Price as of the record date for such vote or written consent or, if there is no specified record date, as of the date of such vote or written consent. To the extent that under the DGCL the vote of the holders of the Series J Preferred Stock, voting separately as a class or series, as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the holders of at least a majority of the then outstanding shares of the Series J Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of holders of a majority of the outstanding Series J Preferred Stock (except as otherwise may be required under the DGCL) shall constitute the approval of such action by the class or series. To the extent that under the DGCL holders of the Series J Preferred Stock are entitled to vote on a matter with holders of common stock, voting together as one class, each share of Series J Preferred Stock shall be entitled to the number of votes as described above.

Liquidation Preferences: Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a “Liquidation”), no distribution shall be made to the holders of any shares of capital stock of the Corporation unless, prior thereto, the Holders shall have received out of the available assets, whether capital or surplus, of the Corporation (i) an amount equal to 100% of the Stated Value, plus any accrued and unpaid dividends thereon and any other fees or liquidated damages owing thereon, for each share of Series J Preferred Stock plus (ii) an amount equal to a pro rata portion of the Eligible Payment Amount, less any stated amount already received, if any, plus (iii) the pro rata amount when considered with all outstanding shares of common stock and any securities that may be convertible into, exercisable for or exchanged for common stock that have similar rites, of any remaining distribution. The distribution shall result in a Redemption. If the assets of the Corporation shall be insufficient to pay in full such amounts due the holders of Series J Preferred Stock or any holders of another class that is parri pasu with the holders of Series J Preferred Stock (“Series J Pari Passu Holders”), then the entire assets shall be distributed ratably among the holders of Series J Preferred Stock and the Series J Pari Passu Holders in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full. A Fundamental Transaction, a Change of Control Transaction, each as defined in the Series J Certificate of Designation, shall be deemed to be a Liquidation. The Corporation shall mail written notice of any such Liquidation, not less than 30 calendar days prior to the payment date stated therein, to each holder of Series J Preferred Stock.

Restrictions on Transfer: Except for transfers to an immediate family member or an Affiliate (as defined in the Certificate, and which includes trusts of which the holders of Series J Preferred Stock or the holders of Series J Preferred Stock are grantors), holders of Series J Preferred Stock may not, directly or indirectly, give, sell, assign, pledge, encumber or otherwise dispose of, transfer or permit to be transferred any shares of Series J Preferred Stock held by such holder of Series J Preferred Stock, and any such purported transfer would have no force or effect and would not be recognized by the Company.

THE FOREGOING SUMMARY OF THE PREFERENCES, RIGHTS, AND LIMITATIONS OF THE SERIES J PREFERRED STOCK IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO THE CERTIFICATE OF DESIGNATION FOR THE SERIES J PREFERRED STOCK, WHICH IS FILED AS EXHIBIT 3.2 TO THIS CURRENT REPORT ON FORM 8-K.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits.

Exhibit Number	Exhibit Description
3.1	<u>Amended and Restated Certificate of Designation, Preferences, Rights and Limitations of Series I 8% Redeemable Preferred Stock</u>

3.2	<u>Amended and Restated Certificate of Designation, Preferences, Rights and Limitations of Series J 8% Voting, Participating, Redeemable Preferred Stock</u>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: September 6, 2024

RESPIRERX PHARMACEUTICALS INC.

(Registrant)

By: /s/ Jeff E. Margolis

Jeff E. Margolis

SVP, CFO, Secretary and Treasurer

RESPIRERX PHARMACEUTICALS INC.
AMENDED AND RESTATED CERTIFICATE OF DESIGNATION,
PREFERENCES, RIGHTS AND LIMITATIONS
OF
SERIES I 8% REDEEMABLE PREFERRED STOCK

PURSUANT TO SECTION 151
OF THE DELAWARE GENERAL CORPORATION LAW

This Amended and Restated Certificate of Designation, Preferences, Rights and Limitations of Series I 8% Redeemable Preferred Stock (the “Series I Certificate of Designation”) is effective as of August 30, 2024.

RespireRx Pharmaceuticals Inc., a corporation organized and existing under the laws of the State of Delaware (the “Corporation”), hereby certifies that the Board of Directors of the Corporation (the “Board of Directors” or the “Board”), pursuant to authority of the Board of Directors as required by Section 151 of the Delaware General Corporation Law, and in accordance with the provisions of its Certificate of Incorporation and Bylaws, each as amended and restated through the date hereof, has and hereby authorizes an amendment and restatement of the Corporation’s previously authorized Certificate of Designation, Preferences, Rights and Limitations of Series I 8% Redeemable Preferred Stock (“Previously Authorized Certificate of Designation”), resulting in this Amended and Restated Certificate of Designation, Preferences, Rights and Limitations of Series I 8% Redeemable Preferred Stock and hereby amends and restates, in its entirety, the designation, number of shares, and certain definitions, including but not necessarily limited to the definition of Eligible Payment Event and fixes the relative rights, preferences, privileges, powers and restrictions thereof, subject to the consent (“Consent”), such Consent having been received, of the Holders of a majority of the shares of the Series I Preferred Stock, such Holders and shares of Series I Preferred Stock as defined in the Previously Authorized Certificate of Designation and below, in accordance with the next paragraph as it appears in the Previously Authorized Certificate of Designation, and Section 3 and Section 6 of the Previously Authorized Certificate of Designation that was filed with the Secretary of State of the State of Delaware on April 2, 2023, as follows:

Designation and Amount. The designation of this series, which consists of up to 5,500 shares of preferred stock (which shall not be subject to increase without the written consent of holders the Series I Preferred Stock, as hereinafter defined (each, a “Holder” and collectively, the “Holders”) holding greater than 50% of the Series I Preferred Stock then outstanding), is the Series I 8% Redeemable Preferred Stock (the “Series I Preferred Stosck”) with a par value of \$0.001 per share (the “Par Value”) and a stated value of One Hundred Dollars (\$100.00) per share (the “Stated Value”).

Section 1. Certain Definitions. For purposes of this Certificate of Designation, in addition to the other terms defined herein, the following terms shall have the following meanings:

“Affiliate” means any person or entity that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person or entity, as such terms are used in and construed under Rule 144 under the Securities Act. With respect to a Holder, (i) any investment fund or managed account that is managed on a discretionary basis by the same investment manager as such Holder, and (ii) any trust with respect to which such Holder (or initial Holder) is grantor, in each case will be deemed to be an Affiliate of such Holder.

“Approved Stock Plan” means any employee benefit plan which has been approved by the Board of Directors of the Corporation, pursuant to which the Corporation’s securities may be issued to any employee, consultant, vendor, officer or director for services provided to the Corporation.

“Base Measurement Price” means \$0.0015 per share and shall be utilized to calculate the number of shares of Common Stock that would be issued if the shares of Series I Preferred Stock were to convert into Common Stock, even though such conversion does not take place, and shall be further used for measurement of the amount of Eligible Payment to be received by the Holders of the Series I Preferred Stock in the event of an Eligible Payment Event.

“Business Day” means any calendar day except Saturday, Sunday, or any calendar day which shall be a federal legal holiday in the United States or any calendar day on which banking institutions in the State of New York or on which United States stock markets or quotations systems or other similar financial markets are authorized or required by law, other governmental action or regulatory or self-regulatory rule to close.

“Change of Control Transaction” means after giving effect to the issuance of the Series I Preferred Stock as provided for in the Securities Purchase Agreement, (i) an acquisition after the date hereof by an individual, legal entity or “group” (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of the Corporation, by contract or otherwise) of in excess of 50% of the voting securities of the Corporation, or (ii) the Corporation merges into or consolidates with any other Person, or any Person merges into or consolidates with the Corporation and, after giving effect to such transaction, the stockholders of the Corporation immediately prior to such transaction own less than 50% of the aggregate voting power of the Corporation or the successor entity of such transaction, or (iii) the Corporation sells or transfers all or substantially all of its assets to another Person and the stockholders of the Corporation immediately prior to such transaction own less than 50% of the aggregate voting power of the acquiring entity immediately after the transaction, or (iv) the execution by the Corporation of an agreement to which the Corporation is a party or by which it is bound, providing for any of the events set forth in clauses (i) through (iii) above.

“Commission” means the United States Securities and Exchange Commission.

“Common Stock” means the Corporation’s common stock, par value \$0.001 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed into.

“Common Stock Equivalents” means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“DGCL” means the Delaware General Corporation Law, as amended, or any successor law, and the rules and regulations promulgated thereunder.

“Eligible Payment” means the Maximum Appreciated Price (unless a lesser price is agreed by the Corporation and the Holder) multiplied by the number of shares of Common Stock corresponding to the number of Series I Preferred Shares divided by the Base Measurement Price multiplied by the Stated Value.

“Eligible Payment Event” In addition to the Fundamental Transactions that may cause an Eligible Payment Event as described in Section 5(b), if in any consecutive twelve (12) month period, which may not be a calendar year, any of the following events occur, such events shall cause an Eligible Payment: (i) any license, sublicense, joint venture or similar transaction resulting in one or more payments within any consecutive twelve (12) month period (which need not be a calendar year) which aggregate to a total of at least \$15,000,000.00, or (ii) any milestone payment or series of milestone payments with respect to research and development within any consecutive twelve (12) month period (which need not be a calendar year) which aggregate to a total of at least \$15,000,000.00, or (iii) receipt of royalties in any consecutive twelve month period (which need not be a calendar year) of at least \$15,000,000.00 or (iv) any event or series of events resulting in the Corporation’s receipt of an amount deemed by the Corporation’s Board of Directors to establish an Eligible Payment Event but shall not include a transaction in which the Corporation is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Exempt Issuance” means the issuance of (a) securities of the Corporation issued pursuant to any Approved Stock Plan, (b) securities issued upon the conversion or exercise of any securities convertible or exercisable into shares of Common Stock, (c) securities issued pursuant to acquisitions or strategic transactions, provided that any such issuance shall only be to an entity that is, itself or through its subsidiaries, an operating company in a business synergistic with the business of the Corporation and shall provide to the Corporation additional benefits in addition to the investment of funds, but shall not include a transaction in which the Corporation is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities and (d) securities issued in connection with any bona fide commercial loan or debt transaction with third persons, provided that the primary purpose of such transaction is not to raise equity capital and is approved by the Corporation’s Board of Directors.

“Junior Securities” means the Series B Preferred Stock, the Common Stock and all other Common Stock Equivalents of the Corporation other than those securities which are explicitly senior or *pari passu* to the Series I Preferred Stock in dividend rights or liquidation preference.

“Liquidation” means a liquidation of the Corporation in accordance with Section 4.

“Maximum Appreciated Price” means \$0.02 per share of Common Stock or its equivalent for measurement purposes, even if not issued, or any lesser amount designated by a Holder and agreed by the Corporation.

“Original Issue Date” means the date of the issuance of shares of the Series I Preferred Stock regardless of the number of transfers of any particular shares of Series I Preferred Stock and regardless of the number of certificates which may be issued to evidence such Series I Preferred Stock. For clarity, there may be a different Original Issue Date with respect to each share of Series I Preferred Stock issued.

“Redemption” means the cancellation of the Series I Preferred Stock held by each Holder at the time of the payment of the Eligible Payment Amount by such Holders.

“Series B Preferred Stock” means the Corporation’s series B preferred stock, par value \$0.001 per share.

“Subsidiary” means any direct or indirect subsidiary of the Corporation.

Section 2. Dividends in Kind.

(a) Holders shall be entitled to receive, and the Corporation shall pay, cumulative dividends at the rate per share (as a percentage of the Stated Value per share) of 8% per annum, annually within 15 calendar days of the end of each fiscal year of the Corporation, (each such date, a “Dividend Payment Date”) in duly authorized, validly issued, fully paid and non-assessable shares of Series I Preferred Stock, which may include fractional shares of Series I Preferred Stock. The dividend to be paid at the end of the first fiscal year after closing and during the year of a Redemption may be a partial period. Dividends on the Series I Preferred Stock shall be calculated on the basis of a 365-day year, shall accrue daily commencing on the Original Issue Date, and shall be deemed to accrue from such date whether or not earned or declared and whether or not there are profits, surplus or other funds of the Corporation legally available for the payment of dividends.

(b) So long as any Series I Preferred Stock remains outstanding, neither the Corporation nor any Subsidiary shall directly or indirectly pay or declare any dividend or make any distribution upon, nor shall any distribution be made in respect of, any Junior Securities as long as any dividends due on the Series I Preferred Stock remain unpaid, nor shall any monies be set aside for or applied to the purchase or redemption (through a sinking fund or otherwise) of any Junior Securities.

Section 3. Voting Rights. Each share of Series I Preferred Stock shall be entitled to one vote per Series I share and shall only vote as a class to the extent that under the DGCL the vote of the holders of the Series I Preferred Stock, voting separately as a class or series, as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the Holders of at least a majority of the then outstanding shares of the Series I Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of Holders of a majority of the outstanding Series I Preferred Stock (except as otherwise may be required under the DGCL) shall constitute the approval of such action by the class or series. For clarity, in addition to the above, any action that would reduce the rights or privileges of the Series I Preferred Stock will require an affirmative vote or consent of the Holders of at least a majority of the then outstanding shares of the Series I Preferred Stock.

Section 4. Liquidation. Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a “Liquidation”), no distribution shall be made to the holders of any shares of capital stock of the Corporation unless, prior thereto, the Holders shall have received out of the available assets, whether capital or surplus, of the Corporation (i) an amount equal to 100% of the Stated Value, plus any accrued and unpaid dividends thereon and any other fees or liquidated damages owing thereon, for each share of Series I Preferred Stock plus (ii) an amount equal to a pro rata portion of the Eligible Payment Amount less any stated amount already received, if any. The distribution described in Section (i) and (ii) shall result in a Redemption. If the assets of the Corporation shall be insufficient to pay in full such amounts due the Holders or any holders of another class that is parri pasu with the Holders (“Pari Passu Holders”), then the entire assets shall be distributed ratably among the Holders and Pari Passu Holders in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full and such distribution shall result in a Redemption. A Fundamental Transaction, as defined in Section 5(b) below, or a Change of Control Transaction, as defined above, shall be deemed to be a Liquidation. The Corporation shall mail written notice of any such Liquidation, not less than 30 calendar days prior to the payment date stated therein, to each Holder.

Section 5. Certain Adjustments.

(a) Stock Dividends and Stock Splits. Other than with respect to an Exempt Issuance, if the Corporation, while any Series I Preferred Stock is outstanding: (A) pays a permissible stock dividend or otherwise makes a permissible distribution or distributions payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents, including any accrued or declared, but unpaid, dividends thereon; (B) subdivides outstanding shares of Common Stock into a larger number of shares; (C) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares; or (D) issues, in the event of a reclassification of shares of Common Stock, any shares of capital stock of the Corporation, then the Base Measurement Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock on a fully converted and exercised basis (excluding any treasury shares of the Corporation) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 5(a) shall become effective immediately after (i) the record date for the determination of stockholders entitled to receive such dividend or distribution or (ii) the effective date in the case of a subdivision, combination or reclassification. In addition, the number of shares of Series I Preferred Stock shall be multiplied by a fraction, the denominator of which be the number of shares of Common Stock on a fully converted and exercised basis (excluding any treasury shares of the Corporation) outstanding immediately before such event and of which the numerator shall be the number of shares of Common Stock outstanding immediately after such event.

(b) Fundamental Transaction and Eligible Payment Event. If, at any time while the Series I Preferred Stock is outstanding, the Corporation effects (A) any merger or consolidation of the Corporation with or into another person, (B) any sale of all or substantially all of its assets in one transaction or a series of related transactions, (C) any tender offer or exchange offer (or a third party effects such a tender offer or exchange offer) pursuant to which holders of Common Stock are permitted to tender or exchange their shares for other securities, cash or property, or (D) any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (in any such case, a “Fundamental Transaction”), and the Fundamental Transaction results in an Eligible Payment Event, then each Holder shall have the right to receive the Eligible Payment Amount which upon receipt shall cause a Redemption. In the case that a Fundamental Transaction does not result in an Eligible Payment Event, the Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Corporation under this Certificate of Designation in accordance with the provisions of this Section 5(b) pursuant to written agreements in form and substance reasonably satisfactory to Holders of a majority of the then outstanding Series I Preferred Stock and approved by such Holders prior to such Fundamental Transaction and shall, at the option of each Holder, deliver to such Holder, in exchange for the shares of Series I Preferred Stock, a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the certificates representing the shares of Series I Preferred Stock which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the “Corporation” shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of, the Corporation under this Certificate of Designation with the same effect as if such Successor Entity had been named as the Corporation herein and therein.

(c) Calculations. All calculations under this Section 5 shall be made to the nearest one (1) 1000th of a share, or one (1) 1000th of a dollar, as the case may be. For purposes of this Section 5, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall exclude any treasury shares of the Corporation.

(d) Notice to the Holders.

(i) Adjustment to Base Measurement Price. Whenever the Base Measurement Price is adjusted pursuant to any provision of this Section 5, the Corporation shall promptly deliver to each Holder a notice setting forth the then current Base Measurement Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

Section 6. Protective Provisions.

So long as any shares of Series I Preferred Stock are outstanding, the Corporation shall not take any of the following corporate actions (whether by merger, consolidation or otherwise) without first obtaining the approval (by vote or written consent, as provided by the DGCL) of the Holders of a majority of the then outstanding shares of Series I Preferred Stock:

(a) alter or change adversely the rights, preferences, powers or privileges of the Series I Preferred Stock, alter or amend this Certificate of Designation, or increase the authorized number of shares of Series I Preferred Stock;

(b) alter or change the rights, preferences or privileges of any capital stock of the Corporation so as to affect adversely the Series I Preferred Stock;

(c) redeem, repurchase or otherwise acquire, or declare or pay any cash dividend or distribution on, any Junior Securities;

(d) increase the par value of the Common Stock;

(e) enter into any agreement, commitment, understanding or other arrangement to take any of the foregoing actions;
or

(f) cause or authorize any Subsidiary to engage in any of the foregoing actions.

Notwithstanding the foregoing, no change pursuant to this Section 6 shall be effective to the extent that, by its terms, it applies to less than all of the Holders of shares of Series I Preferred Stock then outstanding.

The Corporation may issue securities that are pari passu with respect to Liquidation to the Series I Preferred Stock.

Section 7. Restrictions on Transfer.

(a) The holders of Series I Preferred Stock shall not, directly or indirectly, Transfer (as defined below) any shares of Series I Preferred Stock held by such holder and any such purported Transfer shall be of no force or effect and shall not be recognized by the Corporation. The transfer restrictions contained in this Section 7 shall not apply to any Transfer by the holder of Series I Preferred Stock to an immediate family member or an Affiliate. For purposes of this Section 7, the term "Transfer" or any derivation thereof, means to give, sell, assign, pledge, encumber or otherwise dispose of, transfer or permit to be transferred.

(b) The following legend will be endorsed upon the certificate representing shares of Series I Preferred Stock:

THE TRANSFERABILITY OF THE SHARES OF SERIES I PREFERRED STOCK REPRESENTED BY THIS CERTIFICATE IS RESTRICTED BY THE PROVISIONS OF THE CERTIFICATE OF DESIGNATION, PREFERENCES, RIGHTS, AND LIMITATIONS OF SERIES I 8% REDEEMABLE PREFERRED STOCK OF RESPIRERX PHARMACEUTICALS INC. FILED WITH THE STATE OF DELAWARE, A COPY OF WHICH IS ON FILE AT THE PRINCIPAL OFFICE OF THE CORPORATION, AND ANY TRANSFER OF SUCH SHARES OF SERIES I PREFERRED STOCK IN VIOLATION OF SUCH RESTRICTIONS IS VOID.

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), AND MAY NOT BE SOLD, TRANSFERRED, PLEDGED, HYPOTHECATED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF (i) AN EFFECTIVE REGISTRATION STATEMENT FOR SUCH SECURITIES UNDER SAID ACT OR (ii) DELIVERY TO THE CORPORATION OF AN OPINION OF COUNSEL, SATISFACTORY IN FORM AND SUBSTANCE TO THE CORPORATION, THAT SUCH REGISTRATION IS NOT REQUIRED FOR RESALE OF THESE SECURITIES.

Section 8. Miscellaneous.

(a) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder shall be in writing and delivered personally, by facsimile, by email to the Corporation's Chief Financial Officer with a read receipt as confirmation of receipt by the recipient or sent by a nationally recognized overnight courier service, addressed to the Corporation, at the address set forth in the Corporation's filings with the Commission or to the facsimile number provided in the Corporation's filings with the Commission, or such other facsimile number or address as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this Section 8 or by email with a read receipt as confirmation of receipt by the recipient. Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by facsimile, or sent by a nationally recognized overnight courier service addressed to each Holder at the facsimile number or address of such Holder appearing on the signature page of the Securities Purchase Agreement, or by email to Holder with a read receipt as confirmation of receipt by the recipient such other address as may be designated by such Holder in accordance with this Section 8(a). Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number specified in this Section 8 prior to 5:30 p.m. (New York City time) on any date, (ii) the date immediately following the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number specified in this Section 8 between 5:30 p.m. and 11:59 p.m. (New York City time) on any date, (iii) the second Business Day following the date of mailing, if sent by nationally recognized overnight courier service, (iv) upon receipt of email confirmation, or (v) upon actual receipt by the party to whom such notice is required to be given.

(b) Lost or Mutilated Series I Preferred Stock Certificate. If a Holder's Series I Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series I Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership hereof reasonably satisfactory to the Corporation.

(c) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws of that or any other jurisdiction. Each party agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by this Certificate of Designation or the Securities Purchase Agreement and any related schedule, exhibit, annex or other document (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of Wilmington, State of Delaware (the "Delaware Courts"). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the Delaware Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such Delaware Courts, or such Delaware Courts are improper or inconvenient venue for such proceeding. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Certificate of Designation or the transactions contemplated hereby.

(d) Waiver. Any waiver by the Corporation or a Holder of a breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holder. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation. Any waiver by the Corporation or a Holder must be in writing.

(e) Severability. If any provision of this Certificate of Designation is determined to be invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any dividend, interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of such dividend or interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

(f) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a calendar day other than a Business Day, such payment shall be made on the next succeeding Business Day.

(g) Headings. The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Designation of Preferences, Rights and Limitations of the Series I 8% Voting, Participating, Redeemable Preferred Stock this 30th day of August 2024.

RESPIRERX PHARMACEUTICALS INC.

/s/ Arnold S. Lippa

Name: Arnold S. Lippa

Title: Interim President and Interim Chief Executive Officer and
Chief Scientific Officer

RESPIRERX PHARMACEUTICALS INC.
AMENDED AND RESTATED CERTIFICATE OF DESIGNATION,
PREFERENCES, RIGHTS AND LIMITATIONS
OF
SERIES J 8% VOTING, PARTICIPATING, REDEEMABLE PREFERRED STOCK

PURSUANT TO SECTION 151
OF THE DELAWARE GENERAL CORPORATION LAW

This Amended and Restated Certificate of Designation, Preferences, Rights and Limitations of Series J 8% Voting, Participating Redeemable Preferred Stock (the “Series J Certificate of Designation”) is effective as of August 30, 2024.

RespireRx Pharmaceuticals Inc., a corporation organized and existing under the laws of the State of Delaware (the “Corporation”), hereby certifies that the Board of Directors of the Corporation (the “Board of Directors” or the “Board”), pursuant to authority of the Board of Directors as required by Section 151 of the Delaware General Corporation Law, and in accordance with the provisions of its Certificate of Incorporation and Bylaws, each as amended and restated through the date hereof, has and hereby authorizes an amendment and restatement of the Corporation’s previously authorized Certificate of Designation, Preferences, Rights and Limitations of Series J 8% Voting, Participating Redeemable Preferred Stock (“Previously Authorized Certificate of Designation”), resulting in this Amended and Restated Certificate of Designation, Preferences, Rights and Limitations of Series J 8% Voting, Participating Redeemable Preferred Stock and hereby amends and restates, in its entirety, certain definitions, including the definition of Base Measurement Price, the definition of Eligible Payment Event and the definition and the method of determining the Maximum Appreciated Price, and the preferences, privileges, powers and restrictions thereof, subject to the consent (“Consent”), such Consent having been received, of the Holders of a majority of the shares of the Series J Preferred Stock, such Holders and shares of Series J Preferred Stock as defined in the Previously Authorized Certificate of Designation and below, in accordance with Section 3 and Section 6 of the Previously Authorized Certificate of Designation that was filed with the Secretary of State of the State of Delaware on April 12, 2023, as follows:

Designation and Amount. The designation of this series, which consists of up to 15,000 shares of preferred stock (which shall not be subject to increase without the written consent of holders the Series J Preferred Stock, as hereinafter defined (each, a “Holder” and collectively, the “Holders”) holding greater than 50% of the Series J Preferred Stock then outstanding), is the Series J 8% Voting, Participating, Redeemable Preferred Stock (the “Series J Preferred Stock”) with a par value of \$0.001 per share (the “Par Value”) and a stated value of One Hundred Dollars (\$100.00) per share (the “Stated Value”).

Section 1. Certain Definitions. For purposes of this Certificate of Designation, in addition to the other terms defined herein, the following terms shall have the following meanings:

“Affiliate” means any person or entity that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person or entity, as such terms are used in and construed under Rule 144 under the Securities Act. With respect to a Holder, (i) any investment fund or managed account that is managed on a discretionary basis by the same investment manager as such Holder, and (ii) any trust with respect to which such Holder (or initial Holder) is grantor, in each case will be deemed to be an Affiliate of such Holder.

“Approved Stock Plan” means any employee benefit plan which has been approved by the Board of Directors of the Corporation, pursuant to which the Corporation’s securities may be issued to any employee, consultant, vendor, officer or director for services provided to the Corporation.

“Base Measurement Price” means \$0.002 per share and shall be utilized to calculate the number of shares of Common Stock that would be issued if the shares of Series J Preferred Stock were to convert into Common Stock, even though such conversion does not take place, and shall be used to determine the number of votes for the Series J Preferred Stock as well as for measurement of the amount of Eligible Payment to be received by the Holders of the Series J Preferred Stock in the event of an Eligible Payment Event.

“Business Day” means any calendar day except Saturday, Sunday, or any calendar day which shall be a federal legal holiday in the United States or any calendar day on which banking institutions in the State of New York or on which United States stock markets or quotations systems or other similar financial markets are authorized or required by law, other governmental action or regulatory or self-regulatory rule to close.

“Change of Control Transaction” means after giving effect to the issuance of the Series J Preferred Stock as provided for in the Exchange Agreement or the Exchange and Settlement Agreement, as appropriate, (i) an acquisition after the date hereof by an individual, legal entity or “group” (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of the Corporation, by contract or otherwise) of in excess of 50% of the voting securities of the Corporation, or (ii) the Corporation merges into or consolidates with any other Person, or any Person merges into or consolidates with the Corporation and, after giving effect to such transaction, the stockholders of the Corporation immediately prior to such transaction own less than 50% of the aggregate voting power of the Corporation or the successor entity of such transaction, or (iii) the Corporation sells or transfers all or substantially all of its assets to another Person and the stockholders of the Corporation immediately prior to such transaction own less than 50% of the aggregate voting power of the acquiring entity immediately after the transaction, or (iv) the execution by the Corporation of an agreement to which the Corporation is a party or by which it is bound, providing for any of the events set forth in clauses (i) through (iii) above.

“Commission” means the United States Securities and Exchange Commission.

“Common Stock” means the Corporation’s common stock, par value \$0.001 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed into.

“Common Stock Equivalents” means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“DGCL” means the Delaware General Corporation Law, as amended, or any successor law, and the rules and regulations promulgated thereunder.

“Eligible Payment” means the Maximum Appreciated Price, (unless a lesser price is agreed by the Corporation and the Holder) multiplied by the number of shares of Common Stock corresponding to the number of Series J Preferred Shares divided by the Base Measurement Price multiplied by the Stated Value.

“Eligible Payment Event” In addition to the Fundamental Transactions that may cause an Eligible Payment Event as described in Section 5(b), if in any consecutive twelve (12) month period, which may not be a calendar year, any of the following events occur, such events shall cause an Eligible Payment: (i) any license, sublicense, joint venture or similar transaction resulting in one or more payments within any consecutive twelve (12) month period (which need not be a calendar year) which aggregate to a total of at least \$20,000,000.00, or (ii) any milestone payments with respect to research and development within any consecutive twelve (12) month period (which need not be a calendar year) which aggregate to a total of at least \$20,000,000.00, or (iii) receipt of royalties in any consecutive twelve month period (which need not be a calendar year) of at least \$20,000,000.00 or (iv) any event or series of events resulting in the Corporation’s receipt of an amount deemed by the Corporation’s Board of Directors to establish an Eligible Payment Event but shall not include a transaction in which the Corporation is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Exchange Agreement” means an exchange agreement, pursuant to which an original Holder acquires shares of Series J Preferred Stock in exchange for forgiveness of compensation owed to such Holder, to which the Corporation and the original Holders are parties, as amended, modified or supplemented from time to time in accordance with its terms.

“Exchange and Settlement Agreement” means an exchange and settlement agreement pursuant to which an original Holder acquires shares of Series J Preferred Stock in exchange for forgiveness of debt or other liabilities and/or compensation owed to such Holder, to which the Corporation and the original Holders are parties, as amended, modified or supplemented from time to time in accordance with its terms.

“Exempt Issuance” means the issuance of (a) securities of the Corporation issued pursuant to any Approved Stock Plan, (b) securities issued upon the conversion or exercise of any securities convertible or exercisable into shares of Common Stock issued and outstanding as of the date of the Exchange Agreement or the Exchange and Settlement Agreement, as appropriate, (c) securities issued pursuant to acquisitions or strategic transactions, provided that any such issuance shall only be to an entity that is, itself or through its subsidiaries, an operating company in a business synergistic with the business of the Corporation and shall provide to the Corporation additional benefits in addition to the investment of funds, but shall not include a transaction in which the Corporation is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities and (d) securities issued in connection with any bona fide commercial loan or debt transaction with third persons, provided that the primary purpose of such transaction is not to raise equity capital and is approved by the Corporation’s Board of Directors.

“Junior Securities” means the Series B Preferred Stock, the Common Stock and all other Common Stock Equivalents of the Corporation other than those securities which are explicitly senior or *pari passu* to the Series J Preferred Stock in dividend rights or liquidation preference.

“Liquidation” means a liquidation of the Corporation in accordance with Section 4.

“Maximum Appreciated Price” means the lesser of (i) the closing price per share of Common Stock or its equivalent if the Common Stock is then listed or admitted to trading on a Nasdaq stock exchange or other stock exchange or over the counter market or other securities market which reports closing sale prices on the trading day on which an Eligible Payment Event is publicly announced prior to the opening of financial markets on such date, or the trading day following the public announcement of the Eligible Payment Event if announced after the opening of the financial markets on the date of the Eligible Payment Event, or (ii) the sum of any upfront payments and milestone amounts, if any associated with an Eligible Payment Event divided by the number of shares of Common Stock outstanding on such date, inclusive of any shares to be issued upon conversion of any convertible debt inclusive of accrued unpaid interest that is the subject of conversion notices received but not yet processed and inclusive of any shares of Common Stock issuable upon conversion of any convertible preferred stock inclusive of accrued dividends in-kind that are the subject of conversion notices received but not yet processed and shares of Common Stock issuable upon exercise of stock options or warrants that are the subject of exercise notices received but not yet processed or any securities convertible or exercisable into Common Stock for which notices of conversion or exercise have been received but not yet processed, or (iii) \$0.03 (3 cents).”

“Original Issue Date” means the date of the issuance of shares of the Series J Preferred Stock regardless of the number of transfers of any particular shares of Series J Preferred Stock and regardless of the number of certificates which may be issued to evidence such Series J Preferred Stock. For clarity, there may be a different Original Issue Date with respect to each share of Series J Preferred Stock issued.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Series B Preferred Stock” means the Corporation’s series B preferred stock, par value \$0.001 per share.

“Subsidiary” means any direct or indirect subsidiary of the Corporation.

“Trading Day” means a day on which the New York Stock Exchange is open for business.

Section 2. Dividends in Kind.

(a) Holders shall be entitled to receive, and the Corporation shall pay, cumulative dividends at the rate per share (as a percentage of the Stated Value per share) of 8% per annum, annually within 15 calendar days of the end of each fiscal year of the Corporation, (each such date, a “Dividend Payment Date”) in duly authorized, validly issued, fully paid and non-assessable shares of Series J Preferred Stock, which may include fractional shares of Series J Preferred Stock. The dividend to be paid at the end of the first fiscal year after closing and during the year of a redemption may be a partial period. Dividends on the Series J Preferred Stock shall be calculated on the basis of a 365-day year, shall accrue daily commencing on the Original Issue Date, and shall be deemed to accrue from such date whether or not earned or declared and whether or not there are profits, surplus or other funds of the Corporation legally available for the payment of dividends.

(b) So long as any Series J Preferred Stock remains outstanding, neither the Corporation nor any Subsidiary shall directly or indirectly pay or declare any dividend or make any distribution upon, nor shall any distribution be made in respect of, any Junior Securities as long as any dividends due on the Series J Preferred Stock remain unpaid, nor shall any monies be set aside for or applied to the purchase or redemption (through a sinking fund or otherwise) of any Junior Securities.

Section 3. Voting Rights. Each share of Series J Preferred Stock shall be entitled to that number of votes, which shall be eligible to vote along with the Common Stockholders, or, as the case may be, when voting as a class, that is equal to one hundred (100x) times the number calculated by dividing the number of shares of Series J Preferred Stock by the Base Measurement Price as of the record date for such vote or written consent or, if there is no specified record date, as of the date of such vote or written consent. To the extent that under the DGCL the vote of the holders of the Series J Preferred Stock, voting separately as a class or series, as applicable, is required to authorize a given action of the Corporation, the affirmative vote or consent of the Holders of at least a majority of the then outstanding shares of the Series J Preferred Stock represented at a duly held meeting at which a quorum is present or by written consent of Holders of a majority of the outstanding Series J Preferred Stock (except as otherwise may be required under the DGCL) shall constitute the approval of such action by the class or series. To the extent that under the DGCL holders of the Series J Preferred Stock are entitled to vote on a matter with holders of Common Stock, voting together as one class, each share of Series J Preferred Stock shall be entitled to the number of votes as described in the first sentence of this Section 4.

Section 4. Liquidation. Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a “Liquidation”), no distribution shall be made to the holders of any shares of capital stock of the Corporation unless, prior thereto, the Holders shall have received out of the available assets, whether capital or surplus, of the Corporation (i) an amount equal to 100% of the Stated Value, plus any accrued and unpaid dividends thereon and any other fees or liquidated damages owing thereon, for each share of Series J Preferred Stock plus, plus (ii) an amount equal to a pro rata portion of the Eligible Payment Amount, less any stated amount already received, if any, plus (iii) the pro rata amount when considered with all outstanding shares of Common Stock and any securities that may be convertible into, exercisable for or exchanged for Common Stock that have similar rites, of any remaining distribution. The distribution described in Section (i) and (ii) and (iii) shall result in a Redemption. If the assets of the Corporation shall be insufficient to pay in full such amounts due the Holders or any holders of another class that is parri pasu with the Holders (“Pari Passu Holders”), then the entire assets shall be distributed ratably among the Holders and Pari Passu Holders in accordance with the respective amounts that would be payable on such shares if all amounts payable thereon were paid in full. A Fundamental Transaction, as defined in Section 5(b) below, or a Change of Control Transaction, as defined in Section 1 above, shall be deemed to be a Liquidation. The Corporation shall mail written notice of any such Liquidation, not less than 30 calendar days prior to the payment date stated therein, to each Holder.

Section 5. Certain Adjustments.

(a) Stock Dividends and Stock Splits. Other than with respect to an Exempt Issuance, if the Corporation, while any Series J Preferred Stock is outstanding: (A) pays a permissible stock dividend or otherwise makes a permissible distribution or distributions payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents, including any accrued or declared, but unpaid, dividends thereon; (B) subdivides outstanding shares of Common Stock into a larger number of shares; (C) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares; or (D) issues, in the event of a reclassification of shares of Common Stock, any shares of capital stock of the Corporation, then the Base Measurement Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock on a fully converted and exercised basis (excluding any treasury shares of the Corporation) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 5(a) shall become effective immediately after (i) the record date for the determination of stockholders entitled to receive such dividend or distribution or (ii) the effective date in the case of a subdivision, combination or reclassification. In addition, the number of shares of Series J Preferred Stock shall be multiplied by a fraction, the denominator of which shall be the number of shares of Common Stock on a fully converted and exercised basis (excluding any treasury shares of the Corporation) outstanding immediately before such event and of which the numerator shall be the number of shares of Common Stock outstanding immediately after such event.

(b) Fundamental Transaction and Eligible Payment Event. If, at any time while the Series J Preferred Stock is outstanding, the Corporation effects (A) any merger or consolidation of the Corporation with or into another person, (B) any sale of all or substantially all of its assets in one transaction or a series of related transactions, (C) any tender offer or exchange offer (or a third party effects such a tender offer or exchange offer) pursuant to which holders of Common Stock are permitted to tender or exchange their shares for other securities, cash or property, or (D) any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (in any such case, a “Fundamental Transaction”), and the Fundamental Transaction results in an Eligible Payment Event, then each Holder shall have the right to receive the same kind and amount of consideration as it would have been entitled to receive the Eligible Payment Amount which upon receipt shall cause a Redemption. In the case that a Fundamental Transaction does not result in an Eligible Payment Event, the Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Corporation under this Certificate of Designation in accordance with the provisions of this Section 5(b) pursuant to written agreements in form and substance reasonably satisfactory to Holders of a majority of the then outstanding Series J Preferred Stock and approved by such Holders prior to such Fundamental Transaction and shall, at the option of each Holder, deliver to such Holder, in exchange for the shares of Series J Preferred Stock, a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the certificates representing the shares of Series J Preferred Stock which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the “Corporation” shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of, the Corporation under this Certificate of Designation and the Exchange Agreement or the Exchange and Settlement Agreement, as appropriate with the same effect as if such Successor Entity had been named as the Corporation herein and therein. In addition to any amounts due to Holders with respect to Fundamental Transactions, whether in cash or in kind, Holders may be eligible to receive an Eligible Payment Amount with respect to Eligible Payment Events. Payment of an Eligible Payment Amount shall result in a redemption.

(c) Calculations. All calculations under this Section 5 shall be made to the nearest one (1) 1000th of a share, or one (1) 1000th of a dollar, as the case may be. For purposes of this Section 5, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall exclude any treasury shares of the Corporation.

(d) Notice to the Holders.

(i) Adjustment to Base Measurement Price. Whenever the Base Measurement Price is adjusted pursuant to any provision of this Section 5, the Corporation shall promptly deliver to each Holder a notice setting forth the then current Base Measurement Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

Section 6. Protective Provisions.

So long as any shares of Series J Preferred Stock are outstanding, the Corporation shall not take any of the following corporate actions (whether by merger, consolidation or otherwise) without first obtaining the approval (by vote or written consent, as provided by the DGCL) of the Holders of a majority of the then outstanding shares of Series J Preferred Stock:

(a) alter or change adversely the rights, preferences, powers or privileges of the Series J Preferred Stock, alter or amend this Certificate of Designation, or increase the authorized number of shares of Series J Preferred Stock;

(b) alter or change the rights, preferences or privileges of any capital stock of the Corporation so as to affect adversely the Series J Preferred Stock;

(c) redeem, repurchase or otherwise acquire, or declare or pay any cash dividend or distribution on, any Junior Securities;

(d) increase the par value of the Common Stock;

(e) enter into any agreement, commitment, understanding or other arrangement to take any of the foregoing actions; or

(f) cause or authorize any Subsidiary to engage in any of the foregoing actions.

Notwithstanding the foregoing, no change pursuant to this Section 6 shall be effective to the extent that, by its terms, it applies to less than all of the Holders of shares of Series J Preferred Stock then outstanding.

The Corporation may issue securities that are pari passu with respect to Liquidation to the Series J Preferred Stock.

Section 7. Restrictions on Transfer.

(a) The holders of Series J Preferred Stock shall not sell, transfer, pledge, hypothecate or otherwise dispose of shares of Series J Preferred Stock in the absence of (i) an effective registration statement under the Securities Act of 1933, as amended, or (ii) delivery to the Corporation, of an opinion of counsel, satisfactory in form and substance to the Corporation, that such registration is not required for resale of the Series J Preferred Stock. The transfer restrictions contained in this Section 7 shall not apply to any Transfer by the holder of Series J Preferred Stock to an immediate family member or an Affiliate. For purposes of this Section 7, the term "Transfer" or any derivation thereof, means to give, sell, assign, pledge, encumber or otherwise dispose of, transfer or permit to be transferred.

(b) The following legend will be endorsed upon the certificate representing shares of Series J Preferred Stock:

THE TRANSFERABILITY OF THE SHARES OF SERIES J PREFERRED STOCK REPRESENTED BY THIS CERTIFICATE IS RESTRICTED BY THE PROVISIONS OF THE CERTIFICATE OF DESIGNATION, PREFERENCES, RIGHTS, AND LIMITATIONS OF SERIES J 8% VOTING, PARTICIPATING, REDEEMABLE PREFERRED STOCK OF RESPIRERX PHARMACEUTICALS INC. FILED WITH THE STATE OF DELAWARE, A COPY OF WHICH IS ON FILE AT THE PRINCIPAL OFFICE OF THE CORPORATION, AND ANY TRANSFER OF SUCH SHARES OF SERIES J PREFERRED STOCK IN VIOLATION OF SUCH RESTRICTIONS IS VOID.

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND MAY NOT BE SOLD, TRANSFERRED, PLEDGED, HYPOTHECATED OR OTHERWISE DISPOSED OF IN THE ABSENCE OF (i) AN EFFECTIVE REGISTRATION STATEMENT FOR SUCH SECURITIES UNDER SAID SECURITIES ACT OR (ii) DELIVERY TO THE CORPORATION OF AN OPINION OF COUNSEL, SATISFACTORY IN FORM AND SUBSTANCE TO THE CORPORATION, THAT SUCH REGISTRATION IS NOT REQUIRED FOR RESALE OF THESE SECURITIES.

Section 8. Miscellaneous.

(a) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder shall be in writing and delivered personally, by facsimile, by email to the Corporation's Chief Financial Officer with a read receipt as confirmation of receipt by the recipient or sent by a nationally recognized overnight courier service, addressed to the Corporation, at the address set forth in the Corporation's filings with the Commission or to the facsimile number provided in the Corporation's filings with the Commission, or such other facsimile number or address as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this Section 8 or by email with a read receipt as confirmation of receipt by the recipient. Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by facsimile, or sent by a nationally recognized overnight courier service addressed to each Holder at the facsimile number or address of such Holder appearing on the signature page of the Exchange Agreement or the Exchange and Settlement Agreement, as appropriate, or by email to Holder with a read receipt as confirmation of receipt by the recipient such other address as may be designated by such Holder in accordance with this Section 8(a). Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number specified in this Section 8 prior to 5:30 p.m. (New York City time) on any date, (ii) the date immediately following the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number specified in this Section 8 between 5:30 p.m. and 11:59 p.m. (New York City time) on any date, (iii) the second Business Day following the date of mailing, if sent by nationally recognized overnight courier service, (iv) upon receipt of email confirmation, or (v) upon actual receipt by the party to whom such notice is required to be given.

(b) Lost or Mutilated Series J Preferred Stock Certificate. If a Holder's Series J Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series J Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership hereof reasonably satisfactory to the Corporation.

(c) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws of that or any other jurisdiction. Each party agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by this Certificate of Designation or the Exchange Agreement and any related schedule, exhibit, annex or other document (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of Wilmington, State of Delaware (the "Delaware Courts"). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the Delaware Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such Delaware Courts, or such Delaware Courts are improper or inconvenient venue for such proceeding. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Certificate of Designation or the transactions contemplated hereby.

(d) Waiver. Any waiver by the Corporation or a Holder of a breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holder. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation. Any waiver by the Corporation or a Holder must be in writing.

(e) Severability. If any provision of this Certificate of Designation is determined to be invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any dividend, interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of such dividend or interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

(f) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a calendar day other than a Business Day, such payment shall be made on the next succeeding Business Day.

(g) Headings. The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

(h) Status of Redeemed Series J Preferred Stock. Shares of Series J Preferred Stock may only be issued pursuant to the Exchange Agreement or an Exchange and Settlement Agreement, as appropriate and any related document. If any shares of Series J Preferred Stock shall be redeemed or reacquired by the Corporation, such shares shall resume the status of authorized but unissued shares of preferred stock and shall no longer be designated as Series J 8% Voting, Participating, Redeemable Preferred Stock.

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Designation of Preferences, Rights and Limitations of the Series J 8% Voting, Participating, Redeemable Preferred Stock this 30th day of August 2024.

RESPIRERX PHARMACEUTICALS INC.

/s/ Arnold S. Lippa

Name: Arnold S. Lippa

Title: Interim President and Interim Chief Executive Officer and
Chief Scientific Officer
