

**PROSPECTUS SUPPLEMENT DATED FEBRUARY 8, 2021
(to the Prospectus dated October 28, 2020)**

RespireRx Pharmaceuticals Inc.

This Prospectus Supplement No. 3 supplements and amends the final prospectus dated October 28, 2020 (as previously supplemented by Prospectus Supplement Nos. 1 and 2, the “Final Prospectus”) relating to the resale of up to 115,000,000 shares of our common stock, \$0.001 par value per share (the “Common Stock”), issuable to White Lion Capital, LLC (the “Selling Stockholder”), pursuant to a “put right” under an equity purchase agreement, dated July 28, 2020, as amended, by and between us and the Selling Stockholder. This Prospectus Supplement No. 3 should be read in conjunction with the Final Prospectus and is qualified by reference to the Final Prospectus except to the extent that the information in this Prospectus Supplement No. 3 supersedes the information contained in the Final Prospectus.

On December 14, 2020, January 5, 2021, and January 20, 2021, we filed with the U.S. Securities and Exchange Commission the attached Current Reports on Form 8-K.

Our Common Stock is quoted by the OTCQB Venture Market operated by the OTC Markets Group, Inc. (“OTCQB”) under the symbol “RSPI.” On January 5, 2021, the Company effected a ten-to-one reverse stock split of all of the outstanding shares of Common Stock of the Company (the “Reverse Split”). The share numbers presented throughout the Final Prospectus for periods prior to the effectiveness of the Reverse Split do not reflect the Reverse Split. On February 5, 2021, the closing price of our Common Stock was \$0.037 per share and there were 75,646,039 shares of our Common Stock outstanding, on a post-Reverse Split basis. Due to the Reverse Split, 115,000,000 shares noted above and in the Final Prospectus now relate to 11,500,000 post-Reverse Split shares. In most cases, in reading the Final Prospectus the number of shares and per share prices referred to therein, would be divided by ten and multiplied by ten respectively to understand those numbers on a post-Reverse Split basis. There are 3,600,000 post-Reverse Split shares remaining available for issuance under the Final Prospectus as supplemented by this Prospectus Supplement No. 3.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “Risk Factors” beginning on page 7 of the Final Prospectus, and under similar headings in any amendments or supplements to the Final Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement No. 3 is February 8, 2021

**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): December 10, 2020

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 3.01. Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing.

RespireRx Pharmaceuticals Inc. (the “Company”) received notice from the OTC Markets Group on December 10, 2020, that its common shares would be moved from the OTCQB market to the OTC Pink Sheets platform on December 11, 2020 due to a bid price deficiency. The Company’s common stock failed to maintain a closing bid price of at least \$0.01 for a 30 consecutive calendar day period, and failed to cure the deficiency prior to the expiration of an extension granted by the OTC Markets Group, which extension expired on December 10, 2020.

The Company’s common shares will continue to be quoted on the OTC Pink Sheets platform.

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: December 14, 2020

RESPIRERX PHARMACEUTICALS INC.
(Registrant)

By: /s/ Jeff E. Margolis

Jeff E. Margolis
SVP, CFO, Secretary and Treasurer

**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): January 4, 2021

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:

| <u>Title of each class</u> | <u>Trading Symbol(s)</u> | <u>Name of each exchange on which registered</u> |
|----------------------------|--------------------------|--|
| 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 January 4, 2021, RespireRx Pharmaceuticals Inc. (the “Company”) filed with the Secretary of State of the State of Delaware a Sixth Certificate of Amendment (the “Amendment”) to its Second Restated Certificate of Incorporation. The Amendment effected a ten-to-one (10 to 1) reverse stock split of all of the outstanding shares of common stock of the Company, par value \$0.001 per share. The reverse stock split is effective as of 5:00 p.m. Eastern Time on January 5, 2021. A certified copy of the Amendment has been provided to the Financial Industry Regulatory Authority, Inc. (“FINRA”) in order for it to issue appropriate notifications to the market to allow for the stock to trade on a post-reverse stock split basis upon market open on Wednesday, January 6, 2021. For twenty (20) business days following the effective date of the reverse stock split, the Company’s ticker symbol, currently “RSPI,” will have a “D” appended to it, and will temporarily be traded under the ticker symbol “RSPID”.

The Amendment was previously approved by the Company’s stockholders at a special meeting of stockholders held on November 24, 2020.

The above description of the Amendment does not purport to be complete and is qualified in its entirety by reference to the Amendment, which is attached hereto as Exhibit 3.1 to this Current Report on Form 8-K.

The press release announcing the reverse stock split is attached as Exhibit 99.1 to this Current Report on Form 8-K.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits.

Exhibit Number Exhibit Description

| | |
|-------|--|
| 3.1 | Sixth Certificate of Amendment of the Second Restated Certificate of Incorporation of RespireRx Pharmaceuticals Inc. |
| 99.1* | Press release dated January 5, 2021 |

* Furnished herewith

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: January 5, 2021

RESPIRERX PHARMACEUTICALS INC.
(Registrant)

By: /s/ Jeff E. Margolis

Jeff E. Margolis
SVP, CFO, Secretary and Treasurer

**Sixth Certificate of Amendment
of
Second Restated Certificate of Incorporation
of
RespireRx Pharmaceuticals Inc.**

RespireRx Pharmaceuticals Inc. (the “Corporation”), a corporation organized and existing under the General Corporation Law of the State of Delaware (the “DGCL”), hereby adopts this Sixth Certificate of Amendment (this “Certificate of Amendment”), which amends its Second Restated Certificate of Incorporation (as amended by the Certificate of Designation filed March 14, 2014, the Certificate of Amendment filed April 17, 2014, the Second Certificate of Amendment filed December 16, 2015, the Third Certificate of Amendment filed September 1, 2016, the Fourth Certificate of Amendment filed April 30, 2020, the Certificate of Designation filed July 13, 2020 as amended on September 30, 2020, and the Fifth Certificate of Amendment filed November 24, 2020, the “Certificate of Incorporation”) as described below, and does hereby further certify that:

1. The Board of Directors of the Corporation duly adopted a resolution proposing and declaring advisable the amendment to the Certificate of Incorporation described herein, and the Corporation’s stockholders duly adopted such amendment, all in accordance with the provisions of Section 242 of the DGCL.

2. Article Fourth of the Certificate of Incorporation is hereby amended by:

(i) adding the following paragraph to succeed paragraph (A)(2) of such article and to precede current paragraph (A)(3) of such article:

(3) Effective as of 5:00 p.m. Eastern Standard Time on January 5, 2021 (the “Effective Time”), such date being the business day immediately following the date of the filing of this Certificate of Amendment with the Secretary of State of the State of Delaware, each ten (10) outstanding shares of the Corporation’s Common Stock shall automatically and without any action on the part of the respective holders thereof be exchanged and combined into one (1) share of Common Stock. No fractional shares shall be issued in connection with the exchange. Any fractional shares resulting from the reverse stock split will not be issued but will be paid out in cash (without interest or deduction) in an amount equal to the number of shares exchanged into such fractional share multiplied by the average closing trading price of our Common Stock on the OTC Pink Market for the five trading days immediately before the Effective Time.

(ii) changing the paragraph number at the beginning of current paragraph (A)(3) from “(3)” to “(4)”.

3. All other provisions of the Certificate of Incorporation hereby remain in full force and effect.

By: _____
Name: Jeff Margolis
Title: Senior Vice President, Chief Financial Officer,
Treasurer and Secretary



RespireRx Pharmaceuticals Inc. Announces 10 to 1 Reverse Stock Split

Glen Rock, N.J., January 5, 2021 /Globe Newswire – RespireRx Pharmaceuticals Inc. (OTCQB: RSPI) (“RespireRx” or the “Company” or “we”), has, on January 4, 2021, filed with the Secretary of State of the State of Delaware a Sixth Certificate of Amendment (the “Amendment”) to its Second Restated Certificate of Incorporation. The Amendment effected a ten-to-one (10 to 1) reverse stock split of all of the outstanding shares of common stock of the Company, par value \$0.001 per share. The reverse stock split is effective as of 5:00 p.m. Eastern Time on January 5, 2021. A certified copy of the Amendment has been provided to the Financial Industry Regulatory Authority, Inc. (“FINRA”) in order for it to issue appropriate notifications to the market to allow for the stock to trade on a post-reverse stock split basis upon the OTC market opening on Wednesday, January 6, 2021. For twenty (20) business days following the effective date of the reverse stock split, the Company’s ticker symbol, currently “RSPI,” will have a suffix “D” appended to it and will temporarily be traded under the ticker symbol “RSPID”.

The Amendment was previously approved by the Company’s stockholders at a special meeting of stockholders held on November 24, 2020.

The above description of the Amendment does not purport to be complete and is qualified in its entirety by reference to the Amendment, which is attached as Exhibit 3.1 to the Company’s report on Form 8-K filed with The Securities and Exchange Commission on January 5, 2021.

About RespireRx Pharmaceuticals Inc.

The mission of the Company is to develop innovative and revolutionary treatments to combat disorders caused by disruption of neuronal signaling. We are developing treatment options that address conditions that affect millions of people, but for which there are limited or poor treatment options, including obstructive sleep apnea (“OSA”), attention deficit hyperactivity disorder (“ADHD”) epilepsy, chronic pain, including inflammatory and neuropathic pain, recovery from spinal cord injury (“SCI”), as well as other areas of interest based on results of animal studies to date.

RespireRx is developing a pipeline of new drug products based on our broad patent portfolios across two distinct drug platforms:

- (i) ResolutionRx, our pharmaceutical cannabinoids platform including dronabinol (a synthetic form of Δ^9 -tetrahydrocannabinol (“ Δ^9 -THC”)), which acts upon the nervous system’s endogenous cannabinoid receptors, and
- (ii) EndeavourRx, our neuromodulators platform is made up of two programs: (a) our ampakines program, including proprietary compounds that are positive allosteric modulators (“PAMs”) of AMPA-type glutamate receptors to promote neuronal function and (b) our GABAkines program, including proprietary compounds that are PAMs of GABA_A receptors, which was recently established pursuant to our entry into a patent license agreement with the University of Wisconsin-Milwaukee Research Foundation, Inc., an affiliate of the University of Wisconsin-Milwaukee,

Management believes that there are advantages to separating these platforms formally into newly formed subsidiaries, including but not limited to optimizing their asset values through separate finance channels and making them more attractive for capital raising as well as for strategic deal making. The Company is also engaged in a number of business development efforts (licensing/sub-licensing, joint venture and other commercial structures) with a view to securing strategic partnerships that represent strategic and operational infrastructure additions, as well as cash and in-kind funding opportunities. These efforts have focused on, but have not been limited to, transacting with brand and generic pharmaceutical and biopharmaceutical companies as well as companies with potentially useful formulation or manufacturing capabilities, significant subject matter expertise and financial resources. No assurance can be given that any transaction will come to fruition and that if it does, that the terms will be favorable to the Company.

Additional information about the Company and the matters discussed herein can be obtained on the Company's web-site at www.RespireRx.com or in the Company's filings with the Securities and Exchange Commission at www.sec.gov.

Cautionary Note Regarding Forward-Looking Statements

This press release contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the Company intends that such forward-looking statements be subject to the safe harbor created thereby. These might include statements regarding the Company's future plans, targets, estimates, assumptions, financial position, need for, and availability of, additional financing, business strategy and other plans and objectives for future operations, and assumptions and predictions about research and development efforts, including, but not limited to, preclinical and clinical research design, execution, timing, costs and results, future product demand, supply, manufacturing, costs, marketing and pricing factors.

In some cases, forward-looking statements may be identified by words including "assumes," "could," "ongoing," "potential," "predicts," "projects," "should," "will," "would," "anticipates," "believes," "intends," "estimates," "expects," "plans," "contemplates," "targets," "continues," "budgets," "may," or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. Forward-looking statements are based on information available at the time the statements are made and involve known and unknown risks, uncertainties and other factors that may cause our results, levels of activity, performance or achievements to be materially different from the information expressed or implied by the forward-looking statements in this announcement.

These factors include but are not limited to, regulatory policies or changes thereto, available cash, research and development results, issuance of patents, competition from other similar businesses, interest of third parties in collaborations with us, and market and general economic factors, and other risk factors disclosed in our Form 10-K for the year ended December 31, 2019, our Form S-1 filed on October 14, 2020, as amended and supplemented, and in our Form 10-Q for the quarter ended September 30, 2020. These risks and uncertainties are not exclusive and further information concerning us and our business, including factors that potentially could materially affect our financial results or condition, may emerge from time to time.

You should read these risk factors and the other cautionary statements made in the Company's filings as being applicable to all related forward-looking statements wherever they appear in in this press release. We cannot assure you that the forward-looking statements in this press release will prove to be accurate and therefore prospective investors are encouraged not to place undue reliance on forward-looking statements. Other than as required by law, we undertake no obligation to update or revise these forward-looking statements, even though our situation may change in the future.

This discussion should be read in conjunction with our consolidated financial statements and notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2019 and in our condensed consolidated financial statements (unaudited) and notes thereto included in our Form 10-Q for the quarter ended September 30, 2020.

Company Contact:

Jeff Margolis
Senior Vice President, Chief Financial Officer, Treasurer and Secretary
Telephone: (917) 834-7206
E-mail: jmargolis@respirerx.com

RespireRx Pharmaceuticals, Inc.
126 Valley Road,
Suite C,
Glen Rock, NJ 07452
www.respirerx.com

**UNITED STATES
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Current Report

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- 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 1.01. Entry into a Material Definitive Agreement

FirstFire Note Waiver and Amendment

On January 13, 2021, RespireRx Pharmaceuticals Inc. (the “Company”) and FirstFire Global Opportunities Fund LLC (“FF”) entered into a Waiver and Amendment (the “FF Amendment”) to that certain Convertible Promissory Note, dated July 2, 2020 (the “FF Note”).

Pursuant to the FF Amendment, FF waived the following defaults under the FF Note: (i) the Company’s failure to make amortization payments that were due on each of November 1, 2020, December 1, 2020 and January 1, 2021; (ii) the Company’s failure to give prior written notice to FF of the January 5, 2021 10-for-1 reverse stock split (the “Reverse Split”); (iii) the Company’s failure to maintain the listing of the common stock of the Company, par value \$0.001 per share (“Common Stock”) on the OTC QB Venture Market; and (iv) the Company’s failure to give the required prior notice of the record date of the special meeting of shareholders called to approve the Reverse Split.

In addition, the FF Amendment amends the schedule of amortization payments under the FF Note such that no amortization payment is due until February 28, 2021, when \$121,000 will be due. The remaining \$30,250 will be due on March 1, 2021, unless earlier paid by FF’s conversion of the FF Note.

The FF Amendment also amends the FF Note such that no adjustment was made to the conversion price of the FF Note as a result of the Reverse Split.

The FF Note was filed by the Company on July 7, 2020 as an exhibit to a Current Report on Form 8-K.

White Lion Note Waiver

On January 13, 2021, the Company and White Lion Capital, LLC (“WL”) entered into a Waiver (the “WL Waiver”) with respect to that certain 8% Fixed Promissory Note, dated July 28, 2020, as amended by that Amendment No. 1 to 8% Fixed Promissory Note, dated September 30, 2020 (as amended, the “WL Note”).

Under the terms of the WL Waiver, WL waives the Company’s failure to maintain the listing of its Common Stock on the OTC QB Venture Market. This waiver is effective through and until February 9, 2021. The WL Waiver further provides that, if the Common Stock is relisted on the OTC QB Venture Market on or before February 9, 2021, the parties agree that no event of default will be deemed to have occurred as a result of the previous delisting.

The WL Note was filed by the Company on August 3, 2020, and the amendment was filed on October 5, 2020, each as exhibits to Current Reports on Form 8-K.

The foregoing descriptions of the FF Amendment and the WL Waiver do not purport to be complete and are qualified in their entirety by reference to the FF Amendment and the WL Waiver, copies of which are attached to this Current Report on Form 8-K as Exhibits 99.1 and 99.2, respectively.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits.

| <u>Exhibit Number</u> | <u>Exhibit Description</u> |
|-----------------------|--|
| 99.1 | <u>Waiver and Amendment to Convertible Promissory Note, dated January 13, 2021, by and between RespireRx Pharmaceuticals Inc. and FirstFire Global Opportunities Fund LLC.</u> |
| 99.2 | <u>Waiver with Respect to 8% Fixed Promissory Note, dated January 13, 2021, by and between RespireRx Pharmaceuticals Inc. and White Lion Capital, LLC.</u> |

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: January 20, 2021

RESPIRERX PHARMACEUTICALS INC.
(Registrant)

By: /s/ Jeff E. Margolis

Jeff E. Margolis

SVP, CFO, Secretary and Treasurer

**WAIVER AND AMENDMENT
TO CONVERTIBLE PROMISSORY NOTE**

This Waiver and Amendment to Convertible Promissory Note (this “Waiver and Amendment”), dated as of January 13, 2021, by and between FirstFire Global Opportunities Fund LLC, a Delaware limited liability company (the “Investor”) and RespireRx Pharmaceuticals Inc., a Delaware corporation (the “Company” and, together with the Investor, the “Parties”). Capitalized terms used and not defined herein have the respective meanings assigned to them in the Note (as defined below).

WHEREAS, the Company issued to the Investor a Convertible Promissory Note, dated July 2, 2020 (the “Note”);

WHEREAS, the Company failed to make amortization payments to the Investor of \$30,250.00 on each of November 1, 2020, December 1, 2020, and January 1, 2021, as is required by Section 1.10 of the Note;

WHEREAS, the Company has requested that the Investor waive the requirements of Section 1.10 solely with respect to the payments due on each of November 1, 2020, December 1, 2020 and January 1, 2021;

WHEREAS, the Parties desire to amend Section 1.10 of the Note such that (i) no amortization payment is due as of November 1, 2020, December 1, 2020, or January 1, 2020, (ii) no amortization payment is due on February 1, 2020, and (iii) an amortization payment of \$121,000.00 is due on February 28, 2021 unless earlier paid by the Investor’s conversion of the Note, which conversion would take into account any amortization amount due and payable.

WHEREAS, the Company effectuated a 10-for-1 reverse stock split (the “Reverse Split”) on January 5, 2020 without providing prior written notice to the Investor, as appropriate; and

WHEREAS, in consideration of the amendments and waivers set forth herein, the Parties desire to amend Section 1.6(b) of the Note such that no adjustment to the Conversion Price is made in respect of the Reverse Split.

NOW, THEREFORE, in consideration of the mutual covenants and promises contained in the Note and this Waiver and Amendment and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Waivers. The Investor hereby waives (i) Section 1.10 of the Note, solely with respect to the payments due on each of November 1, 2020, December 1, 2020 and January 1, 2021, such that the Company’s failure to make amortization payments on those dates shall not constitute a breach of any provision under the Note; (ii) Section 1.7 of the Note, such that neither (a) the Company’s failure to give prior written notice to the Investor of the Reverse Split as required nor (b) the delisting of the Company’s common stock by the OTC QB Venture Market, and the related cessation of trading on such market, shall trigger an adjustment to the Conversion Price; (iii) Section 3.14 of the Note, such that the Company’s failure to give required prior written notice to the Investor of the Reverse Split shall not constitute an Event of Default under the Note and (iv) Section 1.6(b) such that the Company’s failure to give required prior notice of the record date of the special meeting of shareholders to approve the Reverse Split shall not constitute a breach of any provision under the Note.

2. Amendments.

(i) Section 1.10 is hereby amended and restated in its entirety to read as follows:

“Amortization Payments. The Borrower shall make the following amortization payments in cash to the Holder towards the repayment of this Note, as provided in the following table:

| <u>Payment Date:</u> | <u>Payment Amount:</u> |
|----------------------|------------------------|
| 11/01/2020 | \$ 0.00 |
| 12/01/2020 | \$ 0.00 |
| 01/01/2021 | \$ 0.00 |
| 02/01/2021 | \$ 0.00 |
| 02/28/2021 | \$ 121,000.00 |
| 03/01/2021 | \$ 30,250.00 |

Provided, that to the extent that Holder makes a conversion of Principal Amount or interest under this Note into shares of Common Stock at any time during the remaining life of the Note, the dollar amount converted shall reduce the 02/28/21 payment amount until satisfied in full before a conversion reduces the 03/01/2021 payment amount, and shall reduce the 03/01/21 payment amount until satisfied in full before a conversion reduces the amount of interest accrued.”

(ii) Section 1.6(b) is hereby amended to place the following sentence at the end of Section 1.6(b):

“Notwithstanding anything to the contrary herein, no adjustment or provision pursuant to this Section 1.6(b) shall be effected with respect to the reverse stock split effectuated by the Borrower on January 5, 2021, such that the Conversion Price shall remain \$0.02 upon the effectuation of such reverse stock split.”

3. Effect of Waiver and Amendment. Except as amended or waived hereby, the existing Note is in all respects ratified and confirmed, and all of the terms, provisions and conditions thereof shall be and remain in full force and effect and are hereby incorporated by reference, except as waived, modified, amended and/or restated as set forth herein. In the event of any inconsistency or conflict between the provisions of the Note and this Waiver and Amendment, the provisions of this Waiver and Amendment will prevail and govern. All references to the existing Note shall hereinafter refer to the existing Note as waived and amended by this Waiver and Amendment.

4. Governing Law. This Waiver and Amendment, and the rights and obligations of the parties hereunder, will be governed, construed and interpreted in accordance with the laws of the State of Delaware, without giving effect to principles of conflicts of law.

5. Entire Agreement. This Waiver and Amendment constitutes the entire agreement of the Parties with respect to the subject matter hereof and supersede all prior understandings and writings between the Parties relating thereto.

6. Further Assurances. The Parties agree to execute such further documents and instruments and to take such further actions as may be reasonably necessary to carry out the purposes and intent of this Waiver and Amendment.

7. Counterparts. This Waiver and Amendment may be executed in counterparts and delivered by facsimile or any similar electronic transmission device, each of which shall be deemed an original, but all of which shall be considered one and the same agreement.

[signature page follows]

IN WITNESS WHEREOF, the Parties have executed this Waiver and Amendment as of the date first written above.

RESPIRERX PHARMACEUTICALS, INC.

By: /s/ Jeff Eliot Margolis

Name: Jeff E. Margolis

Title: SVP, CFO, Treasurer and Secretary

FIRSTFIRE GLOBAL OPPORTUNITIES FUND LLC

By: FirstFire Capital Management, LLC, its Manager

By: /s/ Eli Fireman

Name: Eli Fireman

Title:

**WAIVER
WITH RESPECT TO
8% FIXED PROMISSORY NOTE**

This Waiver, dated as of January 13, 2021 (this “Waiver”), is made by White Lion Capital LLC, a Nevada limited liability company (the “Investor”), in favor of RespireRx Pharmaceuticals Inc., a Delaware corporation (the “Company” and, together with the Investor, the “Parties”). Capitalized terms used and not defined herein have the respective meanings assigned to them in the Note (as defined below).

WHEREAS, the Company issued to the Investor an 8% Fixed Promissory Note, dated July 28, 2020, as amended by that Amendment No. 1 to 8% Fixed Promissory Note, dated September 30, 2020 (as amended, the “Note”);

WHEREAS, on December 11, 2020, the Company’s common stock (the “Common Stock”) was delisted by the OTC QB Venture Market due to the Company’s failure to meet minimum listing requirements;

WHEREAS, pursuant to Section 3(a)(xi) of the Note, such delisting constitutes an Event of Default under the Note;

WHEREAS, in order for the Common Stock to recommence trading on the OTC QB Venture Market, the Common Stock must maintain a closing bid price of at least \$0.01 for 30 consecutive calendar days, and to increase the likelihood of meeting this standard, the Company effectuated a 10-for-1 reverse stock split on January 5, 2020; and

WHEREAS, the Company has requested that the Investor waive the Event of Default triggered by the delisting of its Common Stock until February 9, 2021.

NOW, THEREFORE, in consideration of the premises set forth above and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Waiver. The Investor hereby waives the Event of Default set forth in Section 3(a)(xi) of the Note through and until February 9, 2021, such that the delisting of the Company’s Common Stock shall not constitute an Event of Default under the Note until such date. For the avoidance of doubt, if the Company’s Common Stock is relisted on the OTC QB Venture Market on or prior to February 9, 2021, the Parties agree that no Event of Default shall have occurred with respect to the previous delisting.

2. No Other Modifications. Except as expressly set forth herein, nothing contained in this Waiver will be deemed or construed to amend, supplement, or modify the Note or otherwise affect the rights and obligations of any party thereto, or any other arrangement between or among the Parties, all of which remain in full force and effect.

3. Miscellaneous.

(a) This Waiver shall be governed by, and construed and interpreted in accordance with, the substantive laws of the State of Delaware without giving effect to any conflict of laws rule or principle that might require the application of the laws of another jurisdiction.

(b) This Waiver shall inure to the benefit of and be binding upon each of the Parties and each of their respective successors and assigns.

(c) This Waiver may be executed in counterparts, each of which is deemed an original, but all of which constitutes one and the same agreement.

(d) This Waiver constitutes the sole and entire agreement of the Parties with respect to the subject matter contained herein and supersedes all prior and contemporaneous understandings, agreements, representations and warranties, both written and oral, with respect to such subject matter.

[signature page follows]

IN WITNESS WHEREOF, the Parties have executed this Waiver as of the date first written above.

RESPIRERX PHARMACEUTICALS INC.

By: /s/ Jeff Eliot Margolis

Name: Jeff Eliot Margolis

Title: SVP, CFO, Treasurer and Secretary

WHITE LION CAPITAL LLC

/s/ Yash Thukral

By: Yash Thukral

Title: Managing Partner
