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 15, 2016

MATINAS BIOPHARMA HOLDINGS, INC. (Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) 333-193455 (Commission File Number) 46-3011414 (IRS Employer ID Number)

1545 Route 206 South, Suite 302 Bedminster, New Jersey (Address of principal executive offices)

07921 (Zip Code)

Registrant's telephone number, including area code: (908) 443-1860

Not Applicable (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))

Item 1.01. Entry into a Material Definitive Agreement.

On December 15, 2016, Matinas BioPharma Holdings, Inc., a Delaware corporation (the "Company"), entered into a Lease Agreement (the "Lease Agreement") with CIP II/AR Bridgewater Holdings LLC, a Delaware limited liability company (the "Landlord"), as landlord, pursuant to which the Company agreed to lease from the Landlord certain premises (the "Leased Premises") located in Bridgewater, New Jersey, to be used as the Company's laboratory facility. Occupancy is expected to occur on or about March 15, 2017.

The Leased Premises consist of approximately 14,336 leasable square feet. The base rent for the Leased Premises varies over the Term (as defined below), and generally ranges from approximately \$516,100 to \$771,600 per year. The Company also will be responsible for its pro rata share of any operating expenses, taxes and insurance expenses incurred by the Landlord in connection with the office building in which the Leased Premises are located. Within fifteen (15) days of executing this Lease Agreement, the Company must deliver to the Landlord a security deposit in the amount of \$586,000. Provided there is no event of default of a monetary nature, the amount of the security deposit shall be reduced by \$100,000 on each of the first, second and third anniversaries of the Commencement Date (as defined below), such that as of the third anniversary date, the amount of the security deposit shall be \$286,000. Provided that there is no event of default as of the fourth anniversary date, the amount of the security deposit shall be further reduced to \$200,000.

The initial term of the Lease Agreement (the "Term") is for a period of ten years and shall begin on the date that Landlord substantially completes the initial tenant improvements work, which is expected to be on or about March 15, 2017 (the "Commencement Date"). Under the Lease Agreement, the Company has the option to extend the Term for one subsequent five-year period, provided that the base rent during any extension term will be at a "market" rate reasonably determined by the Landlord.

The summary of the Lease Agreement does not purport to be complete and is qualified in its entirety by reference to full text of the Lease Agreement, which will be filed as an exhibit to the Company's Annual Report on Form 10-K for the period ending December 31, 2016.

Item 2.03 Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant.

The information under Item 1.01 above is incorporated by reference into this Item 2.03, and is qualified in its entirety by reference to the full text of the Lease Agreement, a copy of which will be filed as an exhibit to the Company's Annual Report on Form 10-K for the period ending December 31, 2016.

SIGNATURES

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.

MATINAS BIOPHARMA HOLDINGS, INC.

Date: December 21, 2016

/s/ Roelof Rongen Roelof Rongen, Chief Executive Officer