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

FORM S-8

REGISTRATION STATEMENT UNDER  
THE SECURITIES ACT OF 1933

**InVivo Therapeutics Holdings Corp.**  
(Exact Name of Registrant as Specified in Its Charter)

**Nevada**  
(State or Other Jurisdiction of Incorporation  
or Organization)

**36-4528166**  
(I.R.S. Employer  
Identification No.)

**One Kendall Square, Suite  
Cambridge, MA**  
(Address of Principal Executive Offices)

**02139**  
(Zip Code)

**2015 Equity Incentive Plan**  
(Full Title of the Plan)

**Richard Toselli, M.D.**  
**President and Chief Executive Officer**  
**InVivo Therapeutics Holdings Corp.**  
**One Kendall Square, Suite B14402**  
**Cambridge, MA 02139**  
(Name and Address of Agent For Service)

**(617) 863-5500**  
(Telephone Number, Including Area Code, of Agent For Service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

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 7(a)(2)(B) of the Securities Act.

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## CALCULATION OF REGISTRATION FEE

<b>Title of Securities to be Registered</b>	<b>Amount to be Registered(1)</b>	<b>Proposed Maximum Offering Price Per Share</b>	<b>Proposed Maximum Aggregate Offering Price</b>	<b>Amount of Registration Fee</b>
Common Stock, \$0.00001 par value per share	400,000 shares(2)	\$ 0.54(3)	\$ 216,000(3)	\$ 23.57

- (1) In accordance with Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.
  - (2) Consists of additional shares authorized under the 2015 Equity Incentive Plan as of August 4, 2020.
  - (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(h) under the Securities Act, and based upon the average of the high and low sale prices of the Common Stock as reported on the Nasdaq Capital Market on November 4, 2020.
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## EXPLANATORY NOTE

This Registration Statement on Form S-8, relating to the 2015 Equity Incentive Plan (the “2015 Plan”) of InVivo Therapeutics Holdings Corp. (the “Registrant”), is being filed for the purpose of registering additional securities of the same class as other securities for which a Registration Statement on Form S-8 relating to the 2015 Plan has previously been filed and is effective. Accordingly, this Registration Statement incorporates by reference the contents of the Registration Statement on Form S-8, File No. 333-205471, filed with the Securities and Exchange Commission on July 2, 2015 by the Registrant, relating to the 2015 Plan, the Registration Statement on Form S-8, File No. 333-234630, filed with the Securities and Exchange Commission on November 12, 2019 by the Registrant, and the Registration Statement on Form S-8, File No. 333-236542, filed with the Securities and Exchange Commission on February 20, 2020 by the Registrant, relating to the 2015 Plan, except in each case for Item 8, Exhibits.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 8. Exhibits.

<b>Exhibit Number</b>	<b>Description of Exhibit</b>
<a href="#">4.1</a>	<a href="#">Articles of Incorporation of InVivo Therapeutics Holdings Corp., as amended (incorporated by reference from Exhibit 3.1 to the Company’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2016, as filed with the SEC on August 4, 2016).</a>
<a href="#">4.2</a>	<a href="#">Certificate of Amendment to Articles of Incorporation of InVivo Therapeutics Holdings Corp. (incorporated by reference from Exhibit 3.1 to the Company’s Current Report on Form 8-K, as filed with the SEC on June 1, 2017).</a>
<a href="#">4.3</a>	<a href="#">Certificate of Change Pursuant to NRS 78.209 filed with Nevada Secretary of State, dated April 13, 2018 (incorporated by reference from Exhibit 3.1 to the Company’s Current Report on Form 8-K, as filed with the SEC on April 16, 2018).</a>
<a href="#">4.4</a>	<a href="#">Certificate of Amendment to Articles of Incorporation of InVivo Therapeutics Holdings Corp. (incorporated by reference from Exhibit 3.1 to the Company’s Current Report on Form 8-K, as filed with the SEC on June 1, 2018).</a>
<a href="#">4.5</a>	<a href="#">Certificate of Amendment to Articles of Incorporation of InVivo Therapeutics Holdings Corp. (incorporated by reference from Exhibit 3.1 to the Company’s Current Report on Form 8-K, as filed with the SEC on January 24, 2020).</a>
<a href="#">4.6</a>	<a href="#">Certificate of Change Pursuant to NRS 78.209 filed with Nevada Secretary of State, dated February 10, 2020 (incorporated by reference from Exhibit 3.1 to the Company’s Current Report on Form 8-K, as filed with the SEC on February 11, 2020).</a>
<a href="#">4.7</a>	<a href="#">Certificate of Amendment to Articles of Incorporation of InVivo Therapeutics Holdings Corp. (incorporated by reference from Exhibit 3.1 to the Company’s Current Report on Form 8-K, as filed with the SEC on August 5, 2020).</a>
<a href="#">4.8</a>	<a href="#">Amended and Restated Bylaws of InVivo Therapeutics Holdings Corp., as amended (incorporated by reference from Exhibit 3.2 to the Company’s Current Report on Form 8-K, as filed with the SEC on June 5, 2020).</a>
<a href="#">5.1+</a>	<a href="#">Opinion of Ballard Spahr LLP, counsel to InVivo Therapeutics Holdings Corp.</a>
<a href="#">23.1</a>	<a href="#">Consent of Ballard Spahr LLP (included in Exhibit 5.1).</a>
<a href="#">23.2+</a>	<a href="#">Consent of RSM US LLP, independent registered public accounting firm.</a>
<a href="#">24.1</a>	<a href="#">Power of Attorney (included on the signature pages of this registration statement).</a>
<a href="#">99.1</a>	<a href="#">InVivo Therapeutics Holdings Corp. 2015 Equity Incentive Plan, as amended (incorporated by reference from Exhibit 3.2 to the Company’s Current Report on Form 8-K, as filed with the SEC on August 5, 2020).</a>

+ Filed herewith

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on November 6, 2020.

### INVIVO THERAPEUTICS HOLDINGS CORP.

By: /s/ RICHARD TOSELLI M.D  
Richard Toselli  
President and Chief Executive Officer

### SIGNATURES AND POWER OF ATTORNEY

We, the undersigned officers and directors of InVivo Therapeutics Holdings Corp., hereby severally constitute and appoint Richard Toselli and Richard Christopher, and each of them singly, our true and lawful attorneys with full power to either of them, and to each of them singly, to sign for us and in our names in the capacities indicated below the registration statement on Form S-8 filed herewith and any and all subsequent amendments to said registration statement and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable InVivo Therapeutics Holdings Corp. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ RICHARD TOSELLI M.D</u> Richard Toselli	President, Chief Executive Officer and Director (Principal Executive Officer)	November 6, 2020
<u>/S/ RICHARD CHRISTOPHER</u> Richard Christopher	Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	November 6, 2020
<u>/s/ C. ANN MERRIFIELD</u> C. Ann Merrifield	Chair of the Board	November 6, 2020
<u>/s/ DANIEL R. MARSHAK</u> Daniel R. Marshak	Director	November 6, 2020
<u>/s/ CHRISTINA MORRISON</u> Christina Morrison	Director	November 6, 2020
<u>/s/ RICHARD J. ROBERTS</u> Richard J. Roberts	Director	November 6, 2020
<u>/s/ ROBERT J. ROSENTHAL</u> Robert J. Rosenthal	Director	November 6, 2020



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One Summerlin  
1980 Festival Plaza Drive, Suite 900  
Las Vegas, NV 89135-2958  
TEL 702.471.7000  
FAX 702.471.7070  
www.ballardspahr.com

November 6, 2020

InVivo Therapeutics Holdings Corp.  
One Kendall Square, Building 1400 East, Floor 4  
Cambridge, MA 02139

**Re: Registration Statement on Form S-8**

Ladies and Gentlemen:

We have acted as counsel to InVivo Therapeutics Holdings Corp., a Nevada corporation (the "Corporation"), in connection with the Corporation's Registration Statement on Form S-8 (the "Registration Statement") filed with the United States Securities and Exchange Commission (the "Commission") on the date referenced above under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of an aggregate of 400,000 shares (the "Shares") of the Corporation's common stock, \$0.00001 par value per share (the "Common Stock"), issuable pursuant to the InVivo Therapeutics Holdings Corp. 2015 Equity Incentive Plan, as amended (the "Plan").

We have examined the following documents: (a) the Articles of Incorporation of the Corporation filed with the Nevada Secretary of State on April 2, 2003, as amended; (b) the Amended and Restated Bylaws of the Corporation, dated as of March 29, 2016; (c) the resolutions adopted by the Corporation's board of directors authorizing (i) the filing of the Registration Statement with the Commission, and (ii) the reservation and issuance of the Shares; (d) the Plan; and (e) the Registration Statement and the exhibits thereto. We have also examined such corporate records and other agreements, documents and instruments, and such certificates or comparable documents of public officials and officers and representatives of the Corporation and have made such inquiries of such officers and representatives and have considered such matters of law as we have deemed appropriate as the basis for the opinion hereinafter set forth.

The opinions expressed below are based on the assumptions that: (a) the Registration Statement and any amendments or supplements thereto (including any post-effective amendments) have been filed by the Corporation with the Commission and will be effective at the time that any of the Shares are issued, and that persons acquiring the Shares will do so strictly in accordance with the terms of the Plan and will receive a prospectus containing all of the information required by Part I of the Registration Statement before acquiring such Shares; (b) the Shares will continue to be duly and validly authorized on the dates that the Shares are issued, and, upon the issuance of any of the Shares, the total number of shares of Common Stock of the Corporation issued and outstanding, after giving effect to such issuance of such Shares, will not exceed the total number of shares of Common Stock that the Corporation is then authorized to issue under the Articles, as may be further amended; (c) the Plan will not violate or constitute a default or breach under (i) any agreement or instrument to which the Corporation or its properties is subject, (ii) any law, rule or regulation to which the Corporation is subject, (iii) any judicial or regulatory order or decree of any governmental authority, or (iv) any consent, approval, license, authorization or validation of or filing, recording or registration of any governmental authority; and (d) the Shares will be issued and sold in compliance with the Securities Act and the securities or "Blue Sky" laws of various states.

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On the basis of the foregoing, and subject to the qualifications, assumptions, and limitations set forth herein, we are of the opinion that the Shares issuable in connection with the Plan have been duly authorized and, when issued in accordance with the terms and conditions of the Plan, will be validly issued, fully paid and nonassessable.

This opinion is limited to the present laws of the State of Nevada. We express no opinion as to the laws of any other jurisdiction and no opinion regarding the statutes, administrative decisions, rules and regulations or requirements of any county, municipality or subdivision or other local authority of any jurisdiction.

We do not undertake to advise you or anyone else of any changes in the opinions expressed herein resulting from changes in law, changes in fact or any other matters that hereafter might occur or be brought to our attention.

We hereby consent to the sole use of this opinion as an exhibit to the Registration Statement. In giving this consent, we do not admit that we are within the category of persons whose consent is required by Section 7 of the Securities Act and the rules and regulations promulgated thereunder.

Very truly yours,  
/s/ Ballard Spahr LLP

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CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of InVivo Therapeutics Holdings Corp. of our report dated February 20, 2020, relating to the consolidated financial statements of InVivo Therapeutics Holdings Corp. and subsidiary, appearing in the Annual Report on Form 10-K of InVivo Therapeutics Holdings Corp. for the year ended December 31, 2019.

/s/ RSM US LLP

Boston, MA  
November 6, 2020

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