

July 25, 2022

By Electronic Submission

U.S. Securities and Exchange Commission
Division of Corporation Finance
Office of Life Sciences
100 F Street, N.E.
Washington, D.C. 20549

Attention: Margaret Schwartz Celeste Murphy

Re: **InVivo Therapeutics Holdings Corp.**
Preliminary Proxy Statement on Schedule 14A
Filed July 8, 2022
File No. 001-37350

Ladies and Gentlemen:

InVivo Therapeutics Holdings Corp. (the "Company") has filed today with the U.S. Securities and Exchange Commission (the "Commission") a revised Preliminary Proxy Statement on Schedule 14A (the "Revised Proxy Statement"). This letter, together with the Revised Proxy Statement, sets forth the Company's responses to the comments contained in a letter from the staff of the Commission (the "Staff"), dated July 21, 2022 (the "Letter"), relating to the Company's Preliminary Proxy Statement on Schedule 14A, initially filed with the Commission on July 8, 2022 (File No. 001-3735).

The responses set forth herein are based upon information provided to Wilmer Cutler Pickering Hale and Dorr LLP by the Company. For convenience, the responses are keyed to the numbering of the comments and the headings used in the Letter.

Terms used but not otherwise defined in this letter have the respective meanings ascribed to such terms in the Revised Proxy Statement. Page numbers referred to in the responses reference page numbers in the Revised Proxy Statement.

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Palo Alto Washington

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On behalf of the Company, we advise you as follows:

Preliminary Proxy Statement on Schedule 14A, Filed July 8, 2022

Questions and Answers about Voting at the Annual Meeting and Related Matters

How many votes do I have?, page 1

1. *Please revise to explicitly state that the Voting Rights were granted by the Company pursuant to the Voting Plan solely to affect the passage of the Articles Amendments. We note that the Voting Plan was adopted pursuant to the authority in NRS 78.195(5) and NRS 78.350(8), please revise to define NRS. Additionally, we note that the Board (or a committee thereof) will set the Voting Factor, or a range representing the minimum Voting Factor and the maximum Voting Factor, on or after July 6, 2022. Please revise to explain all factors that the Board (or a committee thereof) will be considering in deciding the Voting Factor. Please also revise your disclosure to clarify how, including the factors considered, the final Voting Factor will be selected if a range is initially chosen instead of a definitive number. Please also revise to clarify the meaning of clause (ii) on page 2, consider including an example. Finally, explain whether these Voting Rights will affect quorum requirements and if so how.*

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 2 and 3 of the Revised Proxy Statement.

2. *Please tell us how the Voting Plan, specifically the granting of the Voting Rights, complies with Nasdaq Rule 5640.*

Response: Prior to employing the Voting Rights Plan, the Company had multiple conversations with Nasdaq about ensuring that the structure complied with Nasdaq Rule 5640. Subsequent to the multiple discussions, Nasdaq confirmed that they were comfortable that given the structure of the Voting Rights Plan, the Voting Rights Plan did not violate Nasdaq Rule 5640. Among the protocols that Nasdaq required for the Company's Voting Rights Plan were mirrored voting and that the Company obtain quorum on its own (without the benefit of the Voting Rights Plan).

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If you have any further questions or comments, or if you require any additional information, please contact the undersigned by telephone at (617) 526-6633 or facsimile at (617) 526-5000. Thank you for your assistance.

Very truly yours,

By: /s/ Rosemary G. Reilly

Rosemary G. Reilly

cc: Richard Toselli, M.D.
President and Chief Executive Officer
InVivo Therapeutics Holdings Corp.
