

August 4, 2022

Richard Toselli, M.D.  
President and Chief Executive Officer  
INVIVO THERAPEUTICS HOLDINGS CORP.  
One Kendall Square, Suite B14402  
Cambridge, MA 02139

Re: INVIVO THERAPEUTICS

HOLDINGS CORP.

Revised Preliminary

Proxy Statement on Schedule 14A

Filed July 25, 2022  
File No. 001-37350

Dear Dr. Toselli:

We have reviewed your July 25, 2022 response to our comment letter and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our July 21, 2022 letter.

Revised Preliminary Proxy Statement on Schedule 14A, Filed July 25, 2022

Questions and Answers about Voting at the Annual Meeting and Related Matters, page 1

1. We note the disclosure on page 5 related to Proposal No. 3 regarding broker non-votes and proxies marked abstain and that both of these will have the same effect as a vote Against the proposal. However, we note that under the Voting Plan, shares that are not voted will not affect the ratio in which the additional Voting Rights are voted. In view of the potential exercise of Voting Rights by Rights Stockholders, please revise these disclosures to clarify the impact of the Voting Plan in these situations.

Richard Toselli, M.D.  
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2. Please provide an opinion of counsel from counsel authorized to practice law in Nevada regarding whether the Voting Plan and the granting of the Voting Rights is valid under Nevada law and whether the vote that would result as a consequence of one or more Rights Stockholders exercising their Voting Rights would be valid under Nevada law, including for satisfying the voting threshold under Nevada law for such matters and

amending the Articles of Incorporation.

You may contact Margaret Schwartz at 202-551-7153 or Celeste Murphy at 202-551-3257 if you have any questions.

Sincerely,

Division of

Office of Life

Corporation Finance

Sciences

cc: Rosemary Reilly, Esq.