

October 19, 2022

Tyler Howes
Division of Corporation Finance
Office of Life Sciences
Securities and Exchange Commission
100 F Street, NE
Washington, D.C. 20549

**Re: BullFrog AI Holdings, Inc.
Amendment No.1 to Draft Registration Statement on Form S-1
Submitted August 15, 2022
CIK No. 0001829247**

Dear Mr. Howes:

On behalf of BullFrog AI Holdings, Inc. (the "Company"), this letter responds to comments provided by the staff of the Division of Corporation Finance, Office of Life Sciences (the "Staff") of the Securities and Exchange Commission (the "Commission") to the undersigned on September 2, 2022 regarding Amendment No.1 ("Amendment No. 1") to Draft Registration Statement on Form S-1 (the "Draft Registration Statement"), which was submitted to the Commission on August 15, 2022.

Concurrent with the submission of this letter, the Company is filing via EDGAR Amendment No. 2 to the Draft Registration Statement ("Amendment No. 2"), which reflects the Company's responses to the comments received by the Staff and certain updated information. We have also enclosed a courtesy copy of Amendment No. 2, marked to indicate changes from Amendment No. 1, as Exhibit A. For your convenience, the Company is also delivering via email a copy of this letter and its enclosures.

Amendment No. 1 to Draft Registration Statement on Form S-1

Prospectus Summary

Business Overview, page 1

1. ***We note your response to prior comment 2. Please remove the statements claiming your platform can "mitigate risk" in therapeutic development and "increase the odds-of-success" for clinical trials as these statements are speculative given the current development status of your platform.***

Response: The Company respectfully acknowledges the Staff's comment and has removed such statements in Amendment No. 2.

Johns Hopkins University - Mebendazole License, page 5

2. ***We note your revised disclosure in response to prior comment 5. Please tell us how these study results assessed efficacy. In this regard, it is not clear how the 41.7% and 25% figures should be assessed. In discussing results, please also note that it should be clear whether the study was powered to assess efficacy and whether the results are statistically significant. Please also revise page F-21 to remove the statement asserting that Mebendazole demonstrated "long-term safety."***

Response: The Company respectfully acknowledges the Staff's comment and has provided additional disclosure on pages 5, 33, and 41 in Amendment No. 2 regarding how these study results assess efficacy and has removed the figures and statement that Mebendazole demonstrated "long-term safety" on page F-21 in Amendment No. 2.

Capitalization, page 23

3. ***We note the footnote disclosure that you added below your Capitalization table in response to prior comment 6. Typically, in situations where conversions occur at the time of an IPO, the Capitalization table includes three columns - an actual column, a pro forma column showing the impact of any conversions, and a pro forma, as adjusted column which gives effect to the sale of shares in the offering. In the interest of clarity, please consider revising your Capitalization table accordingly.***

Response: The Company respectfully acknowledges the Staff's comment and has revised the Capitalization table to include a pro forma column showing the impact of any conversions.

Use of Proceeds, page 23

4. ***We note your response to prior comment 7. Once the size of the offering is known, please further revise this section to specify the amount of proceeds to be allocated to each intended use disclosed in this section.***

Response: The Company respectfully acknowledges the Staff's comment and has revised this section to specify the amount of proceeds to be allocated to each intended use.

Management's Discussion and Analysis of Financial Condition and Results of Operations Liquidity and Capital Resources, page 30

5. ***You indicate in response to prior comment 9 that you are in the process of obtaining a current valuation for your 2022 equity issuances and that your underwriters will determine the IPO pricing. Once you have an estimated offering price or range, please explain to us how the fair value of the common stock underlying your equity issuances was determined and the reasons for any differences between the recent valuations of your common stock leading up to the initial public offering and the estimated offering price. This information will help facilitate our review of your accounting for equity issuances including stock compensation. Please discuss with the staff how to submit your response.***

Response: The Company obtained a valuation as of June 30, 2022, which showed a post reverse split basis of \$4.76 per share. The Company utilized this per share valuation for purposes of calculating stock based compensation. The results of these issuances are reflected in the financials for the six months ended June 30, 2022 (see Note 11) and the MDA section Results of Operations. The Company has increased its valuation throughout the course of 2022 having signed new drug candidates. Since June 30, 2022, the Company signed a new technology agreement with the Applied Physics Lab at Johns Hopkins which encompasses APL's newest technological improvements and made developments in its contract business. We believe that these developments have further added value to the Company.

Business

Our Products, page 32

6. ***Please further revise the discussion of your siRNA and Mebendazole product candidates to clarify their current development status. In this regard, revise the “Current Market” header of the table appearing on this page to reflect that your product candidates have not yet received regulatory approval for commercialization. Please also disclose any development activities that you have conducted on these two candidates.***

Response: The Company respectfully acknowledges the Staff’s comment and has revised its disclosure on page 33 in Amendment No. 2. In addition, the Company has provided a status update on development activities regarding siRNA on pages 5, 40 and F-21 in Amendment No. 2.

Our Market Opportunity, page 36

7. ***We note your response to prior comment 13 and reissue. Please further revise to provide narrative disclosure explaining each graphic that is depicted in this section. Please also balance the disclosure of a “\$47.1 billion serviceable market” with your current market share and any steps that must be taken before commercializing your platform..***

Response: The Company respectfully acknowledges the Staff’s comment and has revised its disclosure on page 36 in Amendment No. 2. to specify that to date it has not penetrated the failed drug market. In addition, the Company has provided a narrative disclosure for each graphic.

Intellectual Property, page 37

8. ***We note your response to prior comment 14 and reissue in part. Please revise to include the ownership status and expiration dates, or potential expiration dates if granted, for your patents and patent applications.***

9. Response: The Company respectfully acknowledges the Staff’s comment and has revised the Intellectual Property table on page 37 in Amendment No.2. to include the requested information for its patents.

Please do not hesitate to contact our counsel Arthur Marcus at (212) 930-9700 with any questions or comments regarding this correspondence. Thank you.

Sincerely,

/s/ Vininder Singh

Chief Executive Officer

cc Arthur Marcus, Esq.
