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LATHAM&WATKINS LLP

July 2, 2021

VIA EDGAR

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

Re: Tyra Biosciences, Inc.
Draft Registration Statement on Form S-1
Submitted May 28, 2021
CIK No. 0001863127

Dear Mr. Hagius:

We are in receipt of the Staff's letter dated June 25, 2021 with respect to the above-referenced confidential draft Registration Statement (the "***Registration Statement***"). We are responding to the Staff's comments on behalf of Tyra Biosciences, Inc. ("***Tyra***" or the "***Company***") as set forth below. Simultaneously with the submission of this letter, the Company is confidentially submitting via EDGAR Amendment No. 1 to the draft Registration Statement (the "***Amended Registration Statement***") responding to the Staff's comments and updating the Registration Statement.

The Company's responses set forth in this letter are numbered to correspond to the numbered comments in the Staff's letter. All terms used but not defined herein have the meanings assigned to such terms in the Amended Registration Statement. For ease of reference, we have set forth the Staff's comments and the Company's response for each item below.

Draft Registration Statement on Form S-1

Prospectus Summary
Our Programs, page 2

1. *Please include treatment indications in your pipeline table (e.g., MIBC or ICC). Additionally, please explain what is involved in "lead optimization" phase as opposed to a more general discovery phase. While we will consider your response, we do not currently believe that the lead optimization is a distinct discovery phase and should thus be depicted under a column labeled "discovery." A textual discussion of the program is likely a more appropriate place to make distinctions regarding different segments within a particular phase.*

Tyra's Response: The Company has revised the pipeline table on pages 2 and 100 of the Amended Registration Statement in response to the Staff's comment, to relabel the "Lead Optimization" column as "Discovery" and to add a new "Indication" column.

Our Leadership Team and Investors, page 4

2. *We note that you identify certain entities as investors in your company; however, some do not appear to be among your principal stockholders as disclosed on pages 166 and 167. Specifically, BVF Partners, L.P., Cormorant Asset Management, Janus Henderson Investors, and Logos. If material, please expand your disclosure to describe the nature of each named entity's investment in you and explain to us why including this information is appropriate. Please also explain in your response your plans to update investors about any changes these entities make with respect to their investments in the company.*

   Tyra's Response: The Company has revised the disclosure on pages 4 and 102 of the Amended Registration Statement in response to the Staff's comment, to identify only investors with 5% or greater ownership of the Company.

Industry and Other Data, page 76

3. *We note your statements regarding market data used in the prospectus, including that the sources of the information do not guarantee the accuracy or completeness of the information and that investors are cautioned "not to give undue weight" to estimates. Please revise these statements to eliminate any implication that investors are not entitled to rely on the information included in your registration statement.*

   Tyra's Response: The Company has revised the disclosure on page 76 of the Amended Registration Statement in response to the Staff's comment.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies, Significant Judgments, and Use of Estimates
Determination of Fair Value of Common Stock, page 96

4. *Once you have an estimated offering price or range, please explain to us how you determined the fair value of the common stock underlying your equity issuances and the reasons for any differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price. Please also discuss how you considered recent preferred share issuances. 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.*

   Tyra's Response: The Company acknowledges the Staff's comment and will provide to the Staff, on a supplemental basis, the requested information, once an estimated offering range has been determined.

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Our Strategy, page 102

5. *We note disclosure here and elsewhere in the prospectus in which you refer to accelerated FDA approvals for therapies developed by other companies and that your products candidates may receive similar accelerated approvals. Please revise your prospectus to balance this disclosure with the fact that you have not submitted an application for accelerated approval and that the FDA's accelerated approval pathway may not lead to a faster development process or regulatory review and does not increase the likelihood that a product candidate will receive approval.*

   Tyra's Response: The Company has revised the disclosure on pages 102, 103, 109 and 117 of the Amended Registration Statement in response to the Staff's comment.

In vivo models, page 107

6. *We note your disclosure that your use of in vivo models allows you to "significantly" condense your "drug development timeline." This statement implies that your product candidates are likely to be approved. Please revise this statement to remove any implication that you will be successful in mitigating the risk of uncertainty with regard to clinical development or that you will be successful in commercializing your product candidates in a rapid or accelerated manner.*

   Tyra's Response: The Company has revised the disclosure on page 107 of the Amended Registration Statement in response to the Staff's comment.

FGFR Inhibitors, page 108

7. *We note your comparisons to erdafitinib and pemigatinib, drugs approved by the FDA, as well as infigratinib and futibatinib. Please tell us on what basis you believe you are able to make these comparisons given your early stage of development and the lack of any head-to-head clinical trials or, alternatively, delete these inappropriate comparisons. Please revise the prospectus throughout accordingly.*

   Tyra's Response: The Company respectfully submits to the Staff that the Company's goal for its development programs is to develop product candidates that can overcome acquired resistance to approved and investigational FGFR inhibitors, which resistance has been shown to arise, for example, due to mutations in the gatekeeper region of FGFR3. The preclinical data included in the Amended Registration Statement beginning on page 113 shows results where TYRA-300 and the other referenced drugs were evaluated in the same model and/or experiment, which data supports the Company's design and development thesis with respect to demonstrated potency and anti-tumor activity against drug resistance mutations. Thus, given that all of the compounds were run in the same model to directly compare the observed preclinical effect, the Company believes it is scientifically appropriate to include such comparisons and such data is necessary for an investor's understanding of the Company's programs and approach. The Company has, however, revised the disclosure on pages 110, 113, 115 and 118 of the Amended Registration Statement to clarify that to date, no head-to-head clinical studies have been conducted.

Clinical Development plans for TYRA-300, page 115

8. *We note your statement that you plan to pursue accelerated approval if data from the Phase 2 trial is sufficient to support marketing authorization. Please revise to disclose whether you have received any indication from the FDA that your Phase 2 clinical trial will be treated as a registrational clinical trial such that a Phase 3 trial will not be required.*

   Tyra's Response: The Company has revised the disclosure on page 117 of the Amended Registration Statement in response to the Staff's comment.

Competition, page 122

9. *Please disclose whether, to your knowledge, any of your competitors are developing cancer treatments for the same indications for which you are developing your treatments.*

   Tyra's Response: The Company has revised the disclosure on pages 124 and 125 of the Amended Registration Statement in response to the Staff's comment.

Management

Non-Employee Directors, page 142

10. *Please revise the management biography for Jake Simson, Ph.D. to clearly identify his other employment in the last five years. See Item 401 of Regulation S-K.*

    Tyra's Response: The Company has revised the disclosure on page 143 of the Amended Registration Statement in response to the Staff's comment.

General

11. *Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.*

    Tyra's Response: The Company acknowledges the Staff's comment and will provide to the Staff on a supplemental basis under separate cover copies of all written materials that the Company, or anyone authorized to do so on the Company's behalf, has presented to potential investors in reliance on Section 5(d) of the Securities Act. In the event the Company determines to present additional communications to potential investors in reliance on Section 5(d) of the Securities Act, it will provide the Staff with copies of such additional written materials on a supplemental basis.

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Any comments or questions regarding the foregoing should be directed to the undersigned at 858-523-3962. Thank you in advance for your cooperation in connection with this matter.

Very truly yours,

/s/ Matthew T. Bush
Matthew T. Bush
of LATHAM & WATKINS LLP

cc: Kristin Lochhead, *Securities and Exchange Commission*
Terence O'Brien, *Securities and Exchange Commission*
Chris Edwards, *Securities and Exchange Commission*
Todd Harris, Ph.D., *Tyra Biosciences, Inc.*
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