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

DIVISION OF
CORPORATION FINANCE

February 29, 2024

Mark Lappe
Chief Executive Officer
Inhibrx Biosciences, Inc.
11025 N. Torrey Pines Road, Suite 140
La Jolla, CA 92037

Re: Inhibrx Biosciences, Inc.
Draft Registration Statement on Form 10
Submitted on January 29, 2024
CIK No. 0002007919

Dear Mark Lappe:

We have reviewed your draft registration statement and have the following comments.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe a comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to this letter and your amended draft registration statement or filed registration statement, we may have additional comments.

Draft Registration Statement on Form 10

What conditions must be satisfied to complete the Spin-Off?, page xi

1. Please clarify which conditions are waivable. For example, it appears that you would be unable to waive the condition that there is “no legal restraint against the Separation, Distribution, or the Merger.” If you believe you are able to waive this condition, please explain how you proceed if there are legal restraints.

Information Statement Summary
Overview, page 1

2. We note your disclosure that INBRX-109 is in a potentially registration-enabling trial in Chondrosarcoma. Please define the term "registration-enabling" and explain why this study is "potentially" registrational-enabling. Your discussion should clarify the factors that will determine whether it is registrational and who will make such determination. In addition, please provide balancing disclosure, as you do on page 14, that there can be no

assurance that any of your clinical trials will ultimately be successful or support further clinical development, including development in registration-enabling trials of any of your therapeutic candidates.

3. Please revise your information statement summary to briefly explain scientific or technical terms the first time they are used. By way of example only, we note the following terms:
   - valent
   - Agonist Function

4. Please revise your graphics here, and elsewhere in the prospectus, to ensure that all text is legible.

5. Please revise your pipeline table to more specifically describe the therapeutic indication(s) you are developing your candidates to treat.

Our Strategy, page 2

6. With respect to your strategy to “rapidly advance and optimize the clinical development" of your lead programs." Please delete the the statement that you believe your programs have the potential to reach the marketplace as soon as 2026 with your first commercial therapeutic. Such a prediction is speculative and requires you to predict the outcome of your ongoing clincial trials, as well as the regulatory decisions and timing with respect to additional clincial trials and approval. Additionally, provide balancing disclosure indicating that that results of preclinical studies and early stage clinical trials of your therapeutic candidates may not be predictive of the results of later stage clinical trials, your initial intent to seek approval as a second or third-line therapy, your novel and unproven approach to protein engineering, and unforeseen circumstances, such as the partial clincial hold experienced in 2023, can lead to delays and additional expense.

Risk Factors
Risks Related to the Development, Clinical Testing and Commercialization of Our Therapeutic Candidates, page 13

7. Please include a separate, standalone risk factor disclosing that your approach to protein engineering is "novel and unproven, and as such, the cost, time needed to develop, and likelihood of success may be more uncertain" than if you employed more established drug development approaches.

Our therapeutic candidates may cause undesirable side effects that could delay or prevent their marketing approval..., page 14

8. We note your disclosure on page 15 that certain trial participants have in the past experienced serious adverse events that could be related to one of your therapeutic candidates. Please revise to describe all serious adverse events that occurred in your clinical trials and quantify the number of occurrences. With respect to the disclosures

regarding the partial clinical hold and grade 5 hepatotoxicity event on pages 14 and 86, please define “grade 5” and confirm, if true, that this is a serious adverse event.

We are currently party to license agreements with Elpiscience and Transcenta for the development..., page 18

9. Please disclose, as you do on page 93, that the Transcenta Agreement includes development and, if approved, commercialization in China, Hong Kong, Macau and Taiwan for INBRX-109.

Business

Our Pipeline, page 81

10. Please revise your disclosure on page 86 to clarify that the grade 5 hepatotoxicity event was a seriouse adverse event. Additionally, with response to your disclosure that the adverse events related to Part 1 of your INBRX-106 trial being "mostly mild or moderate" and patients in the the Parts 3 and 4 of this trial having "predominently mild or moderate immune-related toxicities." Please clarify whether any of these adverse events were considered to be serious adverse events.

The 2020 2seventy Agreement, page 94

11. With respect to the 2020 2seventy Agreement, please revise to clarify when the patent underlying the royalty term is expected to expire.

Unaudited Pro Forma Condensed Consolidated Financial Statements, page 129

12. Please provide us an accounting analysis supporting your conclusion that carve out financial statements are not required for Inhibrx Biosciences Inc. that includes your valuation of the INBRX-101 Business, also referred to as RemainCo Business, compared to the SpinCo Business and consideration of the $2.2 billion transaction value for the sale of INBRX-101 to Sanofi as announced on January 23, 2024. In this regard, explain how the Chiesi Option Agreement is expected to impact your sale of the 1INBRX-01 Business to Sanofi. Refer us to the technical guidance upon which you relied. Also, provide the Exhibits and Schedules that appear to have been omitted from the Separation and Distribution Agreement in Form 8-K filed by Inhibrx Inc. on January 23, 2024.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 134

13. You disclose on page 139 that you do not track your internal research and development expenses on a program-by-program basis as they primarily relate to personnel, early research and consumable costs, which are deployed across multiple projects under development. To the extent you track your external research and development expenses

on a program-by-program basis, revise to quantify the expenses on that basis. If you do not track your external costs, disclose that fact.

Notes to Consolidated Financial Statements
6. License and Grant Revenues, page F-21

14. Please revise Note 6 or elsewhere in your footnotes as applicable to provide disclosure regarding your collaboration with Transcenta including to provide quantification ofthe terms governing the license agreement, the key assumptions and methods used to report activity under the agreements, and the associated impact on your financial statements. Refer us to the technical guidance upon which you relied.

Please contact Franklin Wyman at 202-551-3660 or Kevin Vaughn at 202-551-3494 if you have questions regarding comments on the financial statements and related matters. Please contact Jimmy (CF) McNamara at 202-551-7349 or Suzanne Hayes at 202-551-3675 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences