



June 30, 2023

By Electronic Submission

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

Attention: Vanessa Robertson and Kevin Vaughn

Re: Inozyme Pharma, Inc.
Form 10-K for the fiscal year ended December 31, 2022
Filed March 22, 2023
File No. 001-39397

Ladies and Gentlemen:

Inozyme Pharma, Inc. (the "Company" or "we") is responding to the comments of the staff (the "Staff") of the Securities and Exchange Commission contained in the Staff's letter dated June 27, 2023 (the "Comment Letter"), relating to the above referenced Form 10-K for the fiscal year ended December 31, 2022. For convenience, the Company's responses below are keyed to the numbering of the comments and the headings used in the Comment Letter.

Form 10-K for the fiscal year ended December 31, 2022

Research and Development Expense, page 117

1. *You disclose on page 115 that research and development activities are central to your business model. You also disclose that from inception through December 31, 2022, you have incurred \$142.1 million of research and development costs for INZ-701. Please revise your future filings to address the following to more clearly address the trends experienced during the periods presented:*
- Revise to break out the costs incurred during each period presented for INZ-701 separately for each indication.*
 - If you do not track your research and development costs by indication, please disclose that fact and separately quantify the total amount of expense recognized related to INZ-701 for each period presented.*
 - For all other research and development expenses, provide other quantitative or qualitative disclosure that provides more transparency as to the type of research and development expenses incurred (i.e. quantify by nature or type of expense). The total of costs broken out should reconcile to total research and development expense on the Statement of Operations.*

Response: We respectfully acknowledge the Staff's comments. We will include such information in our future filings.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations Results of Operations
General and Administrative Expenses, page 118

2. *You disclose here that the increase in General and administrative expenses from 2021 to 2022 was primarily due to an increase in personnel costs. Please revise your future filings to more clearly identify the drivers of the increase and to quantify the impact of each factor cited.*

Response: We respectfully acknowledge the Staff's comment. We will include such information in our future filings.

If you have any further questions or comments, or if you require any additional information, please contact the undersigned by telephone at (857) 330-4340. Thank you for your assistance.

Very truly yours,

/s/ Douglas A. Treco

Douglas A. Treco

Chief Executive Officer

cc: Sanjay Subramanian, Chief Financial Officer, Inozyme Pharma, Inc.
Brian Johnson, Wilmer Cutler Pickering Hale and Dorr LLP
