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

DIVISION OF
CORPORATION FINANCE

May 1, 2020

John Valliant
Chief Executive Officer
Fusion Pharmaceuticals Inc.
Two International Place, Suite 2310
Boston, MA 02110

Re: Fusion Pharmaceuticals Inc.
Draft Registration Statement on Form S-1
Submitted April 3, 2020
CIK No. 0001805890

Dear Mr. Valliant:

We have reviewed your draft registration statement 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 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 our comments apply 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 these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Draft Registration Statement on Form S-1

Background on Radiopharmaceuticals, page 2

1. We note that you highlight the worldwide sales of two third-party drugs, including one drug that treats bone metastases and another beta-emitting drug that is approved to treat a subset of neuroendocrine cancers. Please revise to remove this disclosure from the Summary or explain to us why you believe it is appropriate to highlight these particular sales figures in your Summary.

Our Platform, page 3

2. We note your discussion on pages 4 and 5 indicating that you plan to use imaging diagnostics to identify patients who are more likely to respond to your therapies and that for FPI-1434, only those patients who meet predefined tumor uptake and dosimetry standards would be advanced into your clinical trials. Please tell us, and revise, as applicable, to discuss whether the market for your drug may be limited by patient specific factors, such as a person's ability to tolerate radiation.

3. We note your disclosure that FPI-1434 is in development for the treatment of solid tumors expressing IGF-1R, which is overexpressed in multiple types of common solid tumors. Please revise here, and elsewhere as applicable, to indicate whether you will be required to conduct separate clinical trials for each common solid state tumors. As applicable, indicate whether you currently plan to conduct Phase 2 trials targeting one or more of the solid state tumors discussed in the prospectus. If you will need to conduct additional development work in order to identify the tumors to be targeted in a Phase 2 trial, please discuss.

4. We refer to the disclosure contained in the second bullet point under the heading. Your disclosure in this section highlights the ability of Fast-Clear linker technology to use multiple targets and classes of targeting molecules; however, it is not clear from your disclosures that you or any third parties have tested this technology in humans and/or have clinical data to support such performance claims. Please revise this disclosure, and others contained in the Summary, to balance and provide context to any performance claims concerning this technology.

Our Corporate History and Team, page 6

5. Please describe the spin-out from the Centre for Probe Development and Commercialization that formed the Company. Please include a description of the timing and terms of the spin-out.

Our Strategy, page 6

6. With reference to your disclosure on page 29, please revise the third bullet point on page 6 to clarify that you expect to initially seek approval of some product candidates as second- or third-line therapies for patients who have failed other approved treatments.

Risks Associated with our Business, page 7

7. With reference to your risk factor disclosure on page 19, please revise the Summary to highlight that there have been limited assessments of the long-term safety of targeted alpha emitting isotope therapies in humans, and that there may be long-term effects from treatment with any of your future product candidates. Also, revise the Summary to highlight your belief that you were a PFIC in 2019 and the adverse tax consequences to investors resulting from a PFIC classification in any given tax year, including additional

reporting requirements.

Capitalization, page 83

8. We note that all outstanding preferred shares, including the preferred shares issued upon the redemption of the preferred exchangeable shares, will be converted into common shares upon the closing of the offering. Please clarify in your disclosures what will happen with the preferred share tranche rights upon the closing of the offering.

Critical Accounting Policies and Signficant Judgments and Estimates, page 106

9. 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 since January 1, 2019 and the reasons for any differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price. This information will help facilitate our review of your accounting for equity issuances including stock compensation and beneficial conversion features.

Business

Our TAT Platform, page 120

10. We note your statement that the Fast-Clear linker was observed in preclinical studies to clear 3.1 times the amount of non-tumor localized TATs compared to the most widely used commercial linkers. Please revise your disclosure in this section to describe the preclinical studies, the specific results and who conducted such studies.

Note 14. Net Loss per Share and Unaudited Pro Forma Net Loss per Share, page F-35

11. We note on page F-8 that the pro forma balance sheet has been prepared to give effect, upon the closing of a qualified IPO, to an additional 97,562.979 common shares. Please explain how you calculated the pro forma weighted average share amount of 89,590,040 on page F-36.

Exhibits

12. Please file the Master Services Agreement and the Supply Agreement with the Centre for Probe Development and Commercialization as exhibits to the registration statement.

13. Please file your license agreements with Genentech and MediaPharma, or explain to us why they should not be filed pursuant to Regulation S-K, Item 601(b)(10).

General

14. 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.

You may contact Nudrat Salik at (202) 551-3692 or Vanessa Robertson at (202) 551-3649 if you have questions regarding comments on the financial statements and related matters. Please contact Christopher Edwards at (202) 551-6761 or Joe McCann at (202) 551-6262 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences