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June 17, 2019

**VIA EDGAR AND OVERNIGHT COURIER**

Office of Healthcare & Insurance  
Division of Corporation Finance  
Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549

Attention: Sharon Blume, Accounting Branch Chief  
Justin Dobbie, Legal Branch Chief  
Andi Carpenter  
Julie Griffith

**Re: Adaptive Biotechnologies Corporation  
Registration Statement on Form S-1  
Filed May 30, 2019  
File No. 333-231838**

Ladies and Gentlemen:

This letter is submitted on behalf of Adaptive Biotechnologies Corporation (the “**Company**”) in response to comments of the staff (the “**Staff**”) of the U.S. Securities and Exchange Commission (the “**Commission**”) with respect to the Company’s Registration Statement on Form S-1 filed on May 30, 2019 (the “**Registration Statement**”), as set forth in the Staff’s letter dated June 7, 2019 (the “**Comment Letter**”). Set forth below are the Company’s responses to the Staff’s comments in the Comment Letter. For reference purposes, the Staff’s comments are reproduced in bold below, followed by the Company’s response to each comment. The numbered paragraphs below correspond to the numbered comments in the Comment Letter. For the convenience of the Staff, we are also sending, by overnight courier, copies of this letter.

**Registration Statement on Form S-1**

**Share-Based Compensation, page 103**

1. **We have reviewed your response to prior comment twelve from our letter dated April 25, 2019. Please provide us with the following additional information:**
  - **In your response you attribute, in part, the difference between the fair value of the company’s common stock in June 2019 and the anticipated price range to IPO scenario probability. We note the IPO scenario probability used in your June 2019 valuation was 80%. Tell us the fair value of the company’s common stock if a 100% IPO probability was used.**

- You indicate that the valuations obtained by management utilize a quantitative methodology to determine the estimated fair value of the company’s common stock, which may differ from a more qualitative and subjective methodology used by some public market investors to determine the price they are willing to pay in an IPO. Tell us the specific qualitative factors you believe support the difference between the fair value of the company’s common stock in June 2019 and the anticipated price range.
- Provide us with your calculation of the June 2019 common stock fair value per share, including your starting point and any adjustments necessary when determining fair value, for example, to recognize a lack of marketability of the company’s common stock.
- Tell us the vesting period of the options granted in 2019.

Company Response: In response to the Staff’s comment, based upon the independent third-party valuation as of May 29, 2019, the fair value of the Company’s common stock in June 2019 would have been \$10.31 had a 100% IPO probability, or “Fully Diluted” scenario, been used.

Had \$10.31 been used as the stock price assumption in the Black-Scholes calculation, the fair value for purposes of Accounting Standards Codification (“ASC”) Topic 718 (“ASC 718”) would have been \$6.93 per share, a \$0.58 increase from the value used by the Company to record share-based compensation. This change in ASC 718 value would have resulted in a \$48,000 increase in total ASC 718 fair value for the options to purchase 83,150 shares granted on June 3, 2019.

Had \$14.00, the low end of the indicative price range, been used as the stock price assumption in the Black-Scholes calculation, the ASC 718 fair value would have been \$10.12 per share, a \$3.77 increase from the value used by the Company to record share-based compensation. This change in ASC 718 value would have resulted in a \$313,000 increase in total ASC 718 fair value for the options to purchase 83,150 shares granted on June 3, 2019.

These amounts would be recognized as expense over a four-year vesting period from the vesting commencement date, assuming no forfeitures. Below is a detailed breakdown of additional expense that would be recognized under each scenario detailed above, assuming no forfeitures:

Reporting Period	Increase In Total ASC 718 Fair Value To Be Recognized Under \$10.31 Stock Price Assumption (in thousands)	Increase In Total ASC 718 Fair Value To Be Recognized Under \$14.00 Stock Price Assumption (in thousands)
Three months ended 6/30/19	\$ 1	\$ 7
Three months ended 9/30/19	\$ 3	\$ 20
Three months ended 12/31/19	\$ 3	\$ 20
Year ended 2020	\$ 12	\$ 78
Year ended 2021	\$ 12	\$ 78
Year ended 2022	\$ 12	\$ 78
Year ended 2023	\$ 5	\$ 32
	\$ 48	\$ 313

In response to the second bullet of the Staff’s comment, the Company considered a number of qualitative factors and recent business developments that it believes public market investors may consider in determining the price they are willing to pay in an IPO, thus supporting the difference between the fair

value of the Company's common stock in June 2019 and the anticipated price range. This included macroeconomic factors such as the Company's near-term insulation from significant foreign tariff exposure and recent trends in public market biotechnology investing that have emphasized the long-term value of early detection, population-based medicine, next generation sequencing and the interplay of machine learning and biotechnology, as well as feedback from the Company's testing the waters meetings, recent accelerated private payor coverage for clonoSEQ, and other positive recent developments in the Company's underlying business.

In response to the third bullet of the Staff's comment, below is the June 2019 common stock \$9.62 fair value per share calculation. This value was computed using a "Fully Diluted" \$10.31 per share scenario, weighted at 80 percent, and a "Liquidation Preferences" \$6.88 per share scenario, weighted at 20 percent.

<u>"Fully Diluted" Per Share Value Calculation*:</u>	
Total invested capital	\$1,200,000,000
Less: Common options and warrants	104,484,619
Less: E-1 options	263,856
Total equity less options and warrants	<u>\$1,095,251,525</u>
Divided by: Total common equivalents (excluding options and common warrants)	106,253,159
Fully diluted per share value	<u>\$ 10.31</u>

\* This scenario assumes all shares of preferred stock convert to common stock, thus there is no benefit to liquidation preferences associated with the preferred stock.

<u>"Liquidation Preferences" Per Share Value Calculation*:</u>	
Total value of the Company	\$1,200,000,000
Less: Value of options and common warrants	87,055,955
Value to preferred and common	<u>\$1,112,944,045</u>
Less: Series A preference	\$ 41,837,749
Less: Series B preference	52,072,139
Less: Series C preference	44,050,240
Less: Series C Warrants preference	436,465
Less: Series D preference	194,985,489
Less: Series E preference	158,965,278
Less: Series E-1 preference	154,525,181
Less: Series F preference	280,291,199
Less: Series F-1 preference	64,964,236
Common stock value	<u>\$ 120,816,069</u>
Divided by: Common shares outstanding	13,168,617
	<u>\$ 9.17</u>
Less: 25% discount for lack of marketability	\$ 2.29
Liquidation preferences per share value	<u>\$ 6.88</u>

\* This scenario is calculated under the Option Model.

In response to the fourth bullet of the Staff’s comment, the following table summarizes, by grant date, the vesting period of the options granted in 2019.

<u>Award Date</u>	<u>Options Awarded</u>	<u>Vesting Period</u>	<u>Weighted-Average Period of Recognition Remaining as of 6/11/2019, Assuming No Forfeitures</u>
2/7/2019	2,045,000	*	3.55 years
2/7/2019	105,000	12 Months	0.66 years
4/23/2019	791,956	*	3.83 years
4/24/2019	10,000	*	3.87 years
4/29/2019	16,875	*	3.88 years
4/30/2019	125,000	*	3.89 years
5/6/2019	713,350	*	3.90 years
6/3/2019	83,150	*	3.96 years

\* 1/4 vest on the one-year anniversary of vesting commencement date; 1/48 vest for each additional full month of continuous service for three years following the one-year anniversary of the vesting commencement date

2. **We have reviewed your response to prior comment five. Please expand your accounting analysis to more clearly articulate how you determined unit of account, measurement, and recognition. See, e.g. ASC 808-10-15-5B and 5C. Please include in your analysis:**

- **the convertible preferred stock concurrently issued and the \$45 million received;**
- **identification and analysis of the authoritative literature you used to determine unit of account, measurement and recognition, including the allocation of arrangement consideration to those units, indicating whether the cited literature applies directly or is used by analogy; and**
- **to the extent you are relying on an analogy, your supporting analysis that the units are outside the scope of other Topics, such as ASC 610.**

Company Response: As part of expanding the Company’s strategic relationship with Microsoft, the Company entered into three contemporaneous transactions (the “contemporaneous arrangements”):

- the Series F-1 Preferred stock financing
- the Azure cloud storage arrangement
- the collaboration arrangement

Given that these arrangements were negotiated simultaneously, the Company analyzed whether any of the arrangements contained other than market terms. If the Company had determined that any of the arrangements contained off-market terms, it would then have evaluated how to attribute the off-market components to the other arrangements.

First, the Company considered the Series F-1 convertible preferred stock financing. The Series F-1 preferred stock financing is legal form equity and is accounted for in accordance with ASC topic 480, *Distinguishing Liabilities from Equity*, as convertible preferred stock in temporary equity.

To determine whether any of the consideration received for the issuance of the preferred securities should be attributed to any of the other contemporaneous arrangements, the Company evaluated whether the consideration received from Microsoft in the Series F-1 convertible preferred stock financing was at fair market value. In addition to Microsoft there were three investors in the financing comprising 10% of the total round, two of which were related parties of the Company and one of which was not. The financial investors were not party to any other agreements and received only Series F-1 preferred stock in return for their cash investment. At Microsoft's explicit request, these additional financial investors were included in the term sheet negotiation process in order to validate the valuation. The Company recognizes ASC 820, *Fair Value Measurement*, defines market participants as, "independent of each other," and therefore the two related party investors may not provide conclusive proof of the fair value of the Series F-1 convertible stock. All three financial investors invested at the same time with the same terms as Microsoft, have extensive experience investing in both public and private companies, owe fiduciary duties to their limited partners, members or shareholders, have investment committee processes designed to ensure appropriate investment terms and, therefore, would not, in the Company's assessment, have invested at a value other than fair market value. Furthermore, when qualitatively evaluating whether the Series F-1 financing included a premium above market fair value, the Company considered the change in the valuation of the Company since its prior Series F financing in May of 2015. This change was a 30% increase over the Company's post-money valuation or a 12% per annum growth over the 2.5 year time period. This rate of growth, based on the Company's evaluation of the business developments during that same period, was deemed reasonable. Simultaneously, the Company utilized a third-party valuation expert, who used a "bottom-up" approach utilizing the F-1 transaction, to assist it in valuing the Company, resulting in a value supporting the Series F-1 purchase price. The Company determined the other investor participation, the valuation report and the reasonable increase from the Company's last post-money valuation provided appropriate evidence that the Series F-1 financing was conducted at fair market value and, therefore, there was no off-market terms which indicated added consideration to attribute to other elements of the arrangement.

Next, the Company assessed the Azure cloud storage arrangement and determined it was a service contract and should be recognized as expense as the service is provided by Microsoft.

The Company also assessed whether the Azure cloud storage arrangement contained an off-market component to be attributed to any of the other contemporaneous arrangements.

The Company negotiated the terms of the Azure cloud storage arrangement with a separate team from Microsoft that was not party to the negotiations on the collaboration arrangement or the F-1 share issuance. Once pricing negotiations were complete the Company executed an amendment to its then existing master service agreement with Microsoft to include cloud storage on February 13, 2018. The cloud storage agreement contains a minimum purchase commitment that is less than the Company's current and anticipated usage.

Additionally, the Company compared the terms of the pricing and volume of its previous cloud storage arrangement with Amazon Web Services and determined that the terms of the Microsoft arrangement were consistent.

Based on the factors described above, the Company determined that the Azure cloud storage arrangement did not contain an off-market component to be attributed to any of the other contemporaneous arrangements.

To account for the collaboration arrangement, the Company applied ASC Topic 808, *Collaboration Agreements* (“ASC 808”), as both parties are active participants in the collaboration activities and are exposed to significant risks and rewards that are dependent on the commercial success of these activities. Since ASC 808 does not provide guidance on how to account for the activities under the collaboration, the Company looked to other accounting topics to determine the appropriate units of account, measurement and recognition.

The collaboration arrangement involves the exchange of certain licenses and certain unspecified services. The Company determined the intent of each exchange in the collaboration arrangement was to provide protective rights for each party to develop and commercialize its own respective technologies. Other than the exchange of protective rights and unspecified services, the collaboration arrangement does not contemplate the exchange of anything that could potentially be consideration (cash or non-monetary).

In initially applying ASC 808 to the collaboration arrangement, the Company assessed whether the licenses, if developed, were being provided to a “customer.” ASC 606 defines a customer as “a party that has contracted with an entity to obtain goods or services that are an output of the entity’s ordinary activities in exchange for consideration.” To determine if Microsoft met the definition of a customer under ASC 606, the Company considered what its ordinary activities were, then assessed the nature of the relationship between the two parties under the collaboration, including an assessment of whether the Company was receiving consideration.

The Company’s assessment is that its ordinary activities are as follows:

Continuously developing its immune medicine platform to apply proprietary technologies to read the diverse genetic code of a patient’s immune system and understand precisely how it detects and treats disease in the patient to help create products in life science research, clinical diagnostics, and drug discovery commercial opportunities. These activities broadly relate to providing immune response information for research or clinical decision making without restriction on the utilization of the data.

The collaboration agreement does grant Microsoft access to the Company’s TCR-antigen map data and computational models for the sole purpose of training Microsoft’s algorithms to help accelerate the Company’s creation of additional computational models (i.e. to allow the parties to carry out the development plan under the collaboration agreement). However, the licenses in Sections 5.2 and 5.3 of the collaboration agreement are designed only to effectuate the division of ownership of outputs from the collaboration according to the ordinary activities and respective fields of use of each party. While the Company acknowledges the data and licenses, if developed, to be provided to Microsoft may be considered outputs (e.g., byproducts) from the Company’s activities, the Company did not believe it was appropriate to consider these as outputs of its “ordinary” activities given the broad restrictions on their use.

The broad restrictions were only designed to give Microsoft freedom to commercialize its Outputs (as defined in the collaboration agreement and further described in the response to Comment 3 below) outside of the Company’s Field of Use (as defined in the collaboration agreement and further described in the response to Comment 3 below). As further described in the response to Comment 3 below, in essence, the life sciences market is exclusively reserved to the Company, while other markets are exclusively reserved to Microsoft.

Additionally, receiving consideration is an indicator of a customer or customer-like relationship and the Company determined it was not receiving consideration for licenses. As such, the Company has concluded that Microsoft did not meet the definition of a customer under ASC 606, as the Company was not providing outputs of its ordinary activities and no consideration was received for the licenses, exclusivity, and no charge services. Accordingly, the Company did not directly apply ASC 606 to determine the units of account, recognition, or measurement. The Company also did not believe it appropriate to apply ASC 606 by analogy in its fact pattern because of the lack of clear exchange of goods or services for consideration. Instead, the Company looked to other accounting literature that includes recognition and measurement concepts for similar arrangements (e.g., exchange of licenses and services) and believed ASC 845 to be most appropriate.

As there was no cash consideration in the arrangement, the Company considered ASC Topic 845, *Nonmonetary Transactions* (“ASC 845”), by analogy, to determine if there was value exchanged related to the licenses. (The Company did not further evaluate unit of account related to individual license transfers within the arrangement because such an evaluation, which the Company believes would be performed based on analogy to ASC 606 through ASC 610-20, would not result in different recognition or measurement given that the licenses were all “transferred” on the same day and are licenses to functional intellectual property. The Company also did not evaluate the unspecified services within the collaboration because minimal services have been performed to date under the arrangement. When services are performed, they will be performed at the cost of each respective partner with no consideration transferred and no costs shared.) The Company acknowledges that ASC 845-10-25-1 excludes transactions where the transferor has substantial continuing involvement in the transferred asset. While the Company does not believe control of the assets was transferred between parties, ASC 845 does contain guidance related to the measurement and recognition of transfers of nonmonetary assets between parties the Company believed this guidance by analogy to be appropriate.

In determining if there was value in the exchange, the Company assessed the stage of the technology being developed. High scale matching of antigens to immune system cells has never been performed before and is a novel technology, with significant inherent risks of failure. In addition, the Company expects this technology may take years to develop and may not achieve the intended result. Given the substantial uncertainty at inception as it relates to a successful outcome of the collaboration, the Company concluded there was not a way to accurately value the future commercial tools and products that might be produced through the collaboration. If there were appropriate inputs to develop a valuation of these elements of the collaboration, the Company believes the value would be immaterial given the stage of the technologies being developed.

Given the above factors in applying ASC 845-10-30-8, the accounting for the collaboration arrangement should be based on the carrying amount of the assets given up. Since the Company does not have a recorded carrying amount for any of the assets exchanged under the Collaboration Agreement, there would be no recognition related to such exchange.

The Company also considered whether it may be appropriate to apply ASC 610, *Gains and Losses from the Derecognition of nonfinancial assets [Other Income]* by analogy. The Company believes that the application of ASC 610-20 would be by analogy because the Company does not believe that it has established a contract in accordance with ASC 606-10-25-1.

If the Company had analogized to ASC 610-20, it believes that the recognition and measurement would be the same as that under ASC 845. The Company believes that the collaboration is an exchange of protective rights and unspecified services between the partners. (The Company also would not have further analyzed unit of account to determine distinct nonfinancial assets because of ASC 610-20-25-6.<sup>1</sup>) The Company believes that any value given up by the Company is equally offset by value received from Microsoft. This would result in the same recognition and measurement (i.e., zero) as the application of ASC 845.

3. **Please provide an analysis to support your assertion that Microsoft is not a customer as that term is defined in ASC 606 for one or more aspects of the arrangement. For example, we note that you granted Microsoft a license to use TCR-antigen map data and computational models, which appear to be defined as mathematical representations of various mappings or predictions of interest related to TCR-antigen associations, and that your ordinary activities include providing products and services based on your proprietary technologies related to the adaptive immune system.**

Company Response: As noted in the response to Comment 2, the Company concluded that Microsoft is not a customer in any of the contemporaneous arrangements. In an attempt to summarize the complicated licensing arrangements under the collaboration agreement in a colloquial fashion, the Company's prior responses to Staff comments may have created confusion around the scope of such licenses. Although the collaboration agreement does grant Microsoft access to the Company's TCR-antigen map data and computational models for the purpose of training Microsoft's algorithms to help accelerate the Company's creation of additional computational models (i.e. to allow the parties to carry out the development plan under the collaboration agreement), the licenses in Sections 5.2 and 5.3 of the collaboration agreement are designed only to effectuate the division of ownership of outputs from the collaboration according to the ordinary activities and respective fields of use of each party.

Specifically, "Adaptive Outputs" are defined as its biological data and computational models and "Microsoft Outputs" are defined as its AI immunomics services and algorithms. Under the licenses in Sections 5.2 and 5.3 of the collaboration agreement, the Company is given freedom to commercialize its Outputs only within the "Field of Use" (defined as diagnostics, therapeutics and immunological research) and, with one exception, Microsoft is given freedom to commercialize its Outputs only outside of the Field of Use<sup>2</sup>. In essence, the life sciences market is exclusively reserved to the Company, while other markets are exclusively reserved to Microsoft.

Protective cross-licenses were then granted to ensure that each party has the right to sell or otherwise commercialize its Outputs (and only its Outputs) in defined and distinct fields of use even if the other party has or acquires related intellectual property rights during the course of the collaboration. For example, in the unlikely event that the Company acquired intellectual property rights to algorithms, the license grants would ensure that those rights could not be asserted to block Microsoft's sale of algorithms outside the Field of Use. But none of the license grants would permit Microsoft to sell or otherwise commercialize *Adaptive* Outputs; i.e., biological data and computational models.

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<sup>1</sup> ASC 610-20-25-6 states in part, "In some cases, control of each asset may transfer at the same time such that an entity may not need to separate and allocate consideration to each distinct nonfinancial asset and in substance nonfinancial asset."

<sup>2</sup> The single exception is a non-exclusive license allowing Microsoft to "Sell" algorithms notwithstanding any patent the Company might obtain whose claims extend to algorithms. For example, if the Company obtained a patent claim to "use of an algorithm to evaluate biological data," the license ensures that the claim won't block Microsoft from selling an algorithm to other healthcare users. The license isn't likely to be needed, as algorithms are generally not patentable.





Microsoft therefore did not receive, under the collaboration agreement, any right to sell or commercialize what the Company provides to other customers; i.e., biological data or computational models. Instead the licenses under the collaboration agreement merely prevent Microsoft from being blocked from selling algorithms or AI immunomics services by any pertinent intellectual property the Company might have or later acquire. The Company, however, is not ordinarily in the business of creating algorithms or AI immunomics services. Accordingly, the Company believes that any intellectual property rights licensed to Microsoft under the collaboration agreement are not outputs of the Company's ordinary activities.

Should the Staff have additional questions or comments regarding this letter or the Registration Statement, please do not hesitate to contact the undersigned at (206) 839-4845 or [andrew.ledbetter@dlapiper.com](mailto:andrew.ledbetter@dlapiper.com).

Sincerely,

DLA PIPER LLP (US)

*/s/ Andrew Ledbetter*

Andrew Ledbetter

cc: Chad Robins, Chief Executive Officer  
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