

Mail Stop 6010

August 22, 2006

Arlene Morris
President and Chief Executive Officer
Affymax, Inc.
4001 Miranda Avenue
Palo Alto, CA 94304

**Re: Affymax, Inc.
File 333-136125
Form S-1 filed July 28, 2006**

Dear Ms. Morris:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General

1. Please note that where we provide examples to illustrate what we mean by our comments, they are examples and not exhaustive lists. If our comments are applicable to portions of the filing that we have not cited as examples, make the appropriate changes in accordance with our comments.
2. In your response letter, please state our comment and then explain each change that has been made in response to a comment. In addition, you should also reference each page

number in which disclosure has been revised in response to a comment so that we can easily place your revised disclosure in its proper context.

3. Please file as promptly as possible all exhibits required by the Exhibit Table provided in Item 601(a) of Regulation S-K. We note, for example, that you have not filed the opinion or consent of your legal counsel, along with other exhibits. Please note that we may have comments on these materials once they are filed.
4. Please provide us proofs of all graphic, visual or photographic information you will provide in the printed prospectus prior to its use, for example in a preliminary prospectus. Please note we may have comments regarding this material.
5. Please note that when you file a pre-effective amendment containing pricing-related information, we may have additional comments. As you are likely aware, you must file this amendment prior to circulating the prospectus.
6. Please note that when you file a pre-effective amendment that includes your price range, it must be bone fide. We interpret this to mean that your range may not exceed \$2 if you price below \$20 and 10% if you price above \$20.
7. Throughout the registration statement, you cite various estimates, statistics and facts and figures. Where you provide your own estimates, please explain how you arrived at those estimates and disclose any third-party sources you relied upon. For all other figures, please identify your sources in the registration statement and provide us with marked copies of these sources for our review. Set forth below is an illustrative and not exhaustive list of statements that should be supported:
 - Recombinant EPO generated over \$12 billion in revenue in 2005...\$8 billion in the U.S., p.1
 - “We estimate that \$3 billion is attributable to use of rEPO in patients on dialysis, at least \$3 billion to oncology...,” p.1
 - Two companies own 50% of Medicare-approved dialysis facilities...80% of the independent, for-profit clinics in the US, p. 7

We note that there are other statistics and figures used in the registration statement, including in the Business section. Our comment applies to those figures as well.

8. We note that you intend to request confidential treatment for a number of your exhibits. Please note that we will be unable to declare your registration statement effective until all issues relating to your confidential treatment requests have been resolved. Please file the request as soon as possible.

Prospectus Summary, p. 1

9. We note that much of the Summary simply replicates the parallel disclosure in the Business section, including the Overview and Strategy sections. The instructions to paragraph 503(a) of Regulation S-K state that the summary “should not merely repeat the text of the

prospectus but should provide a brief overview of the key aspects of the offering. Carefully consider and identify those aspects of the offering that are the most significant and determine how best to highlight those points in clear, plain language.” Please revise the summary accordingly.

10. We note your statement at the beginning of the summary which states, “we are a biopharmaceutical company creating novel peptide-based drugs...” However, since the company has no approved drugs on the market, this statement is not appropriate for the registration statement. Please delete this statement and any other statement presented in the registration statement which suggests that the company creates or has created drugs.
11. In the summary of risk factors, please include a bullet point stating your accumulated losses as of your most recent fiscal quarter.
12. Please explain what you mean by “peptide-based drugs.”

Risk Factors, p. 6

Competition in the pharmaceutical industry is intense...., p. 8

13. We note your statement in risk factor three that two companies dominate medicare-approved dialysis centers. Please consider whether concentration of customers may pose a risk to your ability to obtain favorable margins on your product, if approved.

We have incurred significant operating losses...., p. 11

14. Please provide your accumulated deficit as of June 30, 2006.

We rely on third parties to conduct preclinical and clinical trials...., p.13

Our dependence upon third parties...., p. 14

15. If any of your agreements with the collaborators described in these risk factors is a material agreement upon which you are dependent, you should disclose the name of that collaborator in the appropriate risk factor and you should disclose the alternatives you will face if that collaborator does not fulfill its obligations under its agreement with you. Furthermore, your agreement with any such collaborator should be filed as an exhibit to the registration statement.

We expect to incur substantial costs...., p. 16

16. You reference binding arbitration with J&J and with Ortho-McNeil in this risk factor. While you have provided a separate risk factor relating to your dispute with J&J, we could not find any information in the disclosure relating to your dispute with Ortho-McNeil. Please revise your disclosure to describe the arbitration, the underlying dispute, and the risks to the company posed by the dispute in the risk factors section.

If we fail to attract and retain..., p. 18

17. If any key employees have definite plans to leave the company in the near future, please list those employees in this risk factor.

Use of Proceeds, page 26

18. Please expand the discussion to provide more information concerning what specific expenditures are included in the terms “manufacturing process development” and “fund activities in preparation of potential commercial launch.”

Related party transactions, p. 90

19. Item 601 of Regulation S-K requires that you file each agreement listed in this section as an exhibit to the registration statement. Please file the agreements.

Principal Shareholders, p. 96

20. Please disclose the natural persons who have dispositive and voting power over the shares held by each non-public entity listed in the table.

Signature Page

21. The registration statement should also be signed by the registrant’s controller or principal accounting officer. Any person who occupies more than one of the specified positions required to sign the registration statement should indicate each capacity in which he or she signs the registration statement.

Notes to Consolidated Financial Statements

Note 6. Preferred Stock, page F-21

22. On page 44 of “Management’s Discussion and Analysis,” you disclose that the conversion feature of your preferred stock and the warrants issued in conjunction with your preferred stock financings are “equity-linked derivatives” that meet the paragraph 11(a) scope exception of SFAS No. 133. Please provide us with your analysis that supports your determination that these instruments meet the paragraph 11(a) scope exception under SFAS No. 133. Refer to paragraph 61(l) of SFAS No.133 and any other applicable guidance. Additionally, please provide us with an analysis under EITF No. 00-19 that supports your classification of these instruments as equity, as applicable.
23. Please clarify throughout the filing why you believe it is appropriate to assume the automatic conversion of your preferred stock upon the IPO.

Note 8. Stock-Based Compensation, page F-24

24. When you have disclosed an estimated offering price, please disclose in the financial statements, at a minimum, the following information for equity instruments granted during the 12 months prior to the date of the most recent balance sheet included in the filing:

- For each grant date, the number of options or shares granted, the exercise price, the fair value of the common stock, and the intrinsic value, if any, per option;
- Whether or not the valuation used to determine the fair value of the equity instruments was contemporaneous or retrospective; and
- Whether or not the valuation specialist was a related party.

25. Provide the above information to us for equity instruments issued subsequent to the balance sheet date through the date of your latest response.

26. Disclose in “Management’s Discussion and Analysis” the intrinsic value of your outstanding vested and unvested options based on the estimated IPO price and the options outstanding as of the most recent balance-sheet date presented.

Note 12. Subsequent Events, page F-34

27. Please revise your disclosure to discuss the following with respect to the up-front fees of \$27 million and \$105 million received in February and June 2006, respectively, pursuant to your agreement with Takeda, Inc.:

- Clarify over what period you intend to recognize the up-front license fee revenue and tell us how that period correlates to your responsibilities under the agreement; and
- Disclose the revenue recorded to date for the applicable financial statement periods presented.

Additionally, in revising your disclosure about the Takeda agreement, please present the information in a separate note to the financial statements, as the “subsequent event” characterization does not appear appropriate in relation to your unaudited financial statement information.

28. Please provide us a detailed analysis of how you evaluated your convertible preferred stock issuances in 2005 and 2006 with respect to recording a beneficial conversion feature. Refer to EITF Nos. 00-27 and 98-5.

29. Please clarify your intended accounting treatment for the \$17.6 million milestone payment to Nektar.

As appropriate, please amend your filing in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested supplemental information. Detailed cover letters greatly facilitate our review. Please file your cover letter on EDGAR under the form type label CORRESP. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings reviewed by the staff to be certain that they have provided all information investors require for an informed decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert this action as defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as a confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Ibolya Ignat (202) 551-3656 if you have questions regarding comments on the financial statements and related matters. Please contact Zafar Hasan at (202) 551-3653 or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: Laura Berezin, Esq.
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