

Mail Stop 6010

October 17, 2007

Paul Goddard, Ph.D.
Chairman of the Board and Chief Executive Officer
ARYx Therapeutics, Inc.
6300 Dumbarton Circle
Fremont, CA 94555

**Re: ARYx Therapeutics, Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed October 3, 2007
File No. 333-145813**

Dear Dr. Goddard:

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. It appears that, in reliance on Freedom of Information Act Rule 200.83, you are seeking confidential treatment of almost your entire response to our prior comment 43. As it is highly unlikely that all items in your response are properly subject to a confidential treatment request, please resubmit your request to narrow its scope. Please resubmit both your paper response and the redacted electronic version after you have narrowed the request in scope.

Summary, page 1

2. We note your response to comment 8. Please revise to also disclose your failure to meet preliminary endpoints in comparison to placebo.
3. We note your response to comment 9. Please provide us with the basis for your belief that your product candidates target multi-billion dollar markets.

Risk Factors, page 8

If third parties do not manufacture our product candidates in sufficient quantities...., page 17

4. We note your response to comment 17. Your disclosure states that if ChemShop BV “terminates the agreement” you would not be able to manufacture ATI-5923 until an alternate supplier was qualified. Please describe the terms of your agreement with ChemShop and file the agreement as an exhibit. Alternatively, provide us with an analysis supporting your determination that you are not substantially dependent on ChemShop. The analysis should discuss whether you believe there are other companies available that are capable of producing ATI-5923.

Compensation Discussion and Analysis, page 94

5. We note your response to our prior comment 31 and reissue that comment in part. Even though you do not have a formal policy for allocating between various forms of compensation, you should be able to discuss what impacted the actual mix of total compensation. Please expand your disclosure to specifically discuss how each compensation element and the company’s decisions regarding that element affected decisions regarding other elements.
6. We note your response to our prior comment 33 and reissue that comment in part. To the extent that the input from the human resources department specifically impacted any compensation decisions, please expand your disclosure to discuss the specific impact.
7. We note your response to our prior comment 34 and reissue that comment in part. Please describe how the factors regarding company and individual performance impacted salary levels and how the general economic factors impacted salary levels.
8. We note your response to our prior comments 35 and 36 and reissue those comments as follows.
 - Please describe the “certain clinical studies on our product candidates and related preclinical studies” you refer to on the top of page 97 for the 2006 corporate goals and milestones.

- Please describe the “individual performance goals” for each executive officer for 2006 and 2007.
 - For 2006, please specifically describe how the cash incentive payments paid for 2006 were determined based upon the achievement of the corporate goals and milestones and individual performance goals outlined in this section.
9. We note your response to our prior comment 39 and reissue that comment in part. Please describe how the “business objectives” outlined have impacted salaries since the time set.

1. Organization and Summary of Significant Accounting Policies, page F-8

Revenue Recognition, page F-13

10. In your response to comment 43 you indicate that your licensing of intellectual property rights at the inception of your agreement with P&G represents a deliverable without separate and standalone value because of your obligation to provide the transitional services and to participate in the joint steering committee. Please explain to us how you concluded that the cash flow streams associated with your upfront fee and your transitional services are separate units of account under paragraphs 9 and 10 of EITF 00-21. In this regard, it appears that these deliverables and the associated cash flows should be combined into a single unit of account and that a single revenue attribution model should be followed for this combined unit of account. As a result, please revise your accounting to defer the recognition of your transition service revenues over the performance period of your combined unit of account, or explain to us why this accounting is inappropriate and reference for us the authoritative literature you rely upon to support your accounting.
11. We note your response to comment 43. Since you are using the substantive milestone method, please confirm whether the following criteria have been met and revise your policy disclosure to clarify:
- A substantive effort must be involved in achieving each milestone;
 - Milestone payments must be reasonable in relation to the effort expended;
 - A reasonable amount of time should pass between the up-front payment and the first milestone as well as between successive milestones;
 - Risk should be considered; and
 - All milestone payments in an agreement should be compared to the effort needed to achieve the milestone with one another and the up-front payment.

4. Collaboration with Proctor & Gamble Pharmaceuticals, page F-22

12. We note your response to comment 43. Please expand your disclosure to clarify that the company does not have an obligation to co-promote and/or co-develop ATI-7505. Also clarify that the company has no contractual obligation to perform any development activities and that the company has no manufacturing responsibility. In addition, please disclose your estimated performance period and represent to us that you will discuss any material changes to the estimated completion date in any future Exchange Act periodic reports. Although you indicate that you believe the disclosure of this information can result in competitive harm to you and P&G, this information is important to an understanding of your financial statements and can be readily calculated by comparing your license fee revenues reported in your statements of operations to the total up front fee.

9. Convertible Preferred Stock, page F-28

13. We note your response to comment 44. Please clarify in the filing that the convertible preferred stock is not redeemable and that the events that could trigger preferential payments to the preferred stockholders are considered a deemed redemption.

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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 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 Vanessa Robertson at (202) 551-3649 or Mark Brunhofer at (202) 551-3638 if you have questions regarding comments on the financial statements and related matters. Please contact Sonia Barros at (202) 551-3655 or Suzanne Hayes at (202) 551-3675 with any other questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: James F. Fulton, Jr., Esq.
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