

Mail Stop 6010

June 24, 2008

James A. Hayward, Ph.D., Sc.D.  
Chief Executive Officer  
Applied DNA Sciences, Inc.  
25 Health Sciences Drive, Suite 113  
Stoney Brook, New York 11790

**Re: Applied DNA Sciences, Inc.  
Registration Statement on Form S-1  
Amendment no. 10 filed June 16, 2008  
File No. 333-122848**

Dear Dr. Hayward:

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 information so we may better understand your disclosure. After reviewing this information, we may 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 any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

FORM S-1

Management's Discussion and Analysis of Financial Condition and Plan of Operations

Critical Accounting Policies, page 14

Equity Issued with Registration Rights

1. Please refer to prior comment one. We acknowledge your proposed new disclosure. Please expand your disclosure to discuss the specific methods and key assumptions used to estimate this obligation, particularly the factors that caused

you to increase this obligation by \$7,725,585 in 2007. Provide us a calculation of how you derived the increase in the liability. Also, as previously requested, include all disclosure required by paragraph 12 of EITF 00-19-2, such as the events or circumstances that would require you to transfer consideration under this arrangement.

Notes to Consolidated Financial Statements  
Note D-Private Placement of Convertible Notes

Revaluation of Warrant Liability, page F-21

2. Please refer to prior comment six. We do not understand how paragraph Example 7 of A14 of FSP EITF 00-19-2 supports your reclassification of the cumulative fair value of the warrants and cumulative reported gains. The accrual of your liquidating damage appears to indicate that Example 7 is not applicable to you. Please provide an expanded explanation of your basis for this accounting treatment. In particular, tell us the specific factors that you considered in concluding that payments related to registration rights for these warrants were not probable and that apart from the registration rights arrangement, these warrants would otherwise have been classified as equity instruments in accordance with other applicable GAAP for all periods.

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As appropriate, please amend your registration statement 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 information. Detailed cover letters greatly facilitate our review. 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 filing to be certain that the filing includes all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment 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:

Dr. James A. Hayward  
Applied DNA Sciences, Inc.  
June 24, 2008  
Page 3

- 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 staff comments and the declaration of effectiveness as a 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 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 Franklin Wyman at (202) 551-3660 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact John Krug at (202) 551-3862, Suzanne Hayes, Branch Chief, at (202) 551-3675, or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey Riedler  
Assistant Director

cc: Merrill Kraines, Esquire  
Fulbright & Jaworski L.L.P.  
666 Fifth Avenue  
New York, New York 10103

Dr. James A. Hayward  
Applied DNA Sciences, Inc.  
June 24, 2008  
Page 4