

Mail Stop 0309

January 21, 2005

Judy M. Robinett  
President and Chief Executive Officer  
Medical Discoveries, Inc.  
1338 S. Foothill Drive - #266  
Salt Lake City, Utah 84108

Re: Medical Discoveries, Inc.  
Amendment No. 1 to Form SB-2 Registration Statement filed on  
December  
30, 2005  
File No. 333-121635

Dear Ms. Robinett:

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.

#### Registration Fee Table

1. Footnote 1 to the prospectus summary indicates that the number of shares being registered includes a number of shares issuable upon conversion of a "contingent issuance of Series A convertible preferred stock." We understand that 60,000,000 of the 113,511,158 shares being registered are allocated to shares underlying this contingent issuance of stock. You also state that the sale of the preferred stock is contingent on you entering into and closing a definitive agreement to purchase "certain assets in a proposed acquisition, the details of which have not yet been disclosed and regarding which no definitive agreement is yet executed." Please provide us with your analysis explaining why registration of these shares is appropriate at the present time. Also, please file the subscription and/or purchase agreements for all of the shares being registered, as exhibits to this registration statement. The material terms of these agreements should be disclosed and discussed at an appropriate place in the prospectus.

#### Prospectus Cover Page

2. Please limit the disclosure on your cover page to the information specified in Item 501(a) of Regulation S-B. For example, please replace the first paragraph with a sentence indicating that you are registering \_\_\_ shares for resale by the selling shareholders identified on page \_\_\_ of the prospectus. None of the remaining information in that paragraph is information specified in Item 501(a).

3. Please eliminate your address and phone number on the cover page.

Where you include them under the caption "Our Company" in the prospectus summary, please also include your web address.

Table of Contents Page

4. Please delete the last sentence of the paragraph below the table of contents as there is no information incorporated by reference in a Form SB-2 registration statement.

Summary

5. In a number of places in your document you have used technical language or jargon that is not likely to be understood by your readers. Please replace them with a "plain English" term. If you cannot convey the meaning without them, please explain what the term means at the first place they appear. Here are some examples of the type of language that you should either replace or explain.

- \* Patented anti-infective technology
- \* Electrolyzed solution of free radicals
- \* Cell-based assays
- \* Anti-infective therapeutic product for in-vitro and in-vivo applications

Risk Factors - page 2

6. In your risk factors, and other places in your document, you use phrases such as "we can give you no assurance that" and "there can be no assurance that" various things will or will not happen. This language is legalistic and redundant. Please delete these and similar phrases and instead, be sure that you have adequately explained why you cannot, assure these things.

Our operations are and will be subject to extensive government regulation. - page 4

7. The information you included in this risk factor, which continues over three pages, is too detailed for risk factor disclosure. Please revise it to include a description of the risk and its consequences and enough additional information to put the risk into context. If you are discussing multiple risks under one heading, break them out into separate risk factors. The remainder of the information should be disclosed in the business section of the document.

8. Currently, the last sentence of the risk factor states that you have not completed all testing necessary to prepare and submit an IND to the FDA, and that you do not have the financial resources necessary to do so. However, on the first page of the Summary, you state that you filed an IND with the FDA on November 1, 2004 and that you expect to file a second one in early 2005. Please reconcile these inconsistencies.

Our intellectual property may not be adequately protected. - page 7

9. Please be more specific about what your patents cover. For example, do they cover the substance of MDI-P, or do they cover specific uses of that substance? What is the duration of your patents? How many do you have? Currently, the information in your risk factor is too generic and ambiguous to be meaningful to an investor. Also, what do you mean when you say that your technology "is not necessarily novel?" Do you have the funds to prosecute patent infringements? Are you aware of any infringements? You need to expand the risk factor to provide enough facts for an investor to analyze the risk.

We face significant product liability. - page 8

10. Please revise the risk factor to clearly indicate whether you currently have liability insurance. If you do, please disclose the amount and extent of the coverage. If you don't, please disclose whether you have adequate funds to obtain coverage, whether you have been denied coverage, and the consequences for the clinical trials you are beginning.

Selling Security Holders - page 10

11. Please revise to include the identities of the natural persons having beneficial ownership of the securities registered for sale. Also, tell us whether any of them are broker/dealers or are affiliated with broker/dealers.

Directors, Executive Officers, Promoters and Control Persons - page 14

12. Please expand the information regarding Mr. Anderson to more specifically his business experience during the past five years.  
13. Please provide factual support for the claim made in the fifth sentence of the description of Dr. Dezube's experience. In the alternative, it should be deleted.  
14. Please provide factual support for the claim made in the second sentence of the description of Dr. Mastico's experience. In the alternative, it should be deleted.  
15. In the last sentence of Dr. Palmer's description, please explain what an "NDEA Title IV fellow" is.

Security Ownership of Certain Beneficial Owners and Management - page 16

16. If your outstanding preferred stock is currently convertible, or will become convertible within the next 60 days, please provide ownership information for it in the table on an "as converted" basis.  
Please revise or advise as appropriate.

Preferred Stock, page 17

17. You state that the Series A preferred stock has a dividend preference but do not describe it. Usually preferred shareholders acquire a dividend preference because they are designated the payment of a dividend which must be paid prior to the payment of dividends on commons shares. Please revise to disclose the specific dividend preference. Similarly, you state that the preferred shareholders are entitled to a return of their original investment upon dissolution of the registrant. Please quantify what holders of outstanding shares of preferred stock are entitled to upon dissolution of the company.

Related Party Transactions, page 19

18. You state that the registrant has accrued a total of \$879,136 payable to Ms. Robinett for services rendered and expenses accrued on behalf of the company. It is not clear as to whether these amounts include the accrued and unpaid salary referred to in the executive compensation table or are in addition to it. Please provide additional disclosure. Also, on page 21 under the caption entitled "Employees", you state that the registrant has no employees and that Ms. Robinett is an independent contractor. This suggests that Ms. Robinett does not receive a salary. Please reconcile the disclosure in all three of these sections of the prospectus.

19. Please break out the amounts accrued for services rendered and for expenses accrued, separately. Also, identify the nature of the services and expenses and disclose the period of time over which they were rendered or accrued, respectively.

20. File the agreement(s) regarding the compensation of Ms. Robinett by the company as exhibit(s) to the registration statement and describe the terms whereby she is compensated for services rendered and expenses accrued. If there are no written agreements describe

the terms of any oral agreements between the registrant and Ms. Robinett.

Description of Business - page 19

21. Please include a discussion of the sources and availability of raw materials needed to make your product, and the names of your principal suppliers.

22. Please provide support for the statement in the third paragraph of this section where you indicate that you believe you have sufficient capital to complete Phase I of your cystic fibrosis trials.

23. Please expand the discussion of your patents on page 20 to include such information as the duration of the patents and whether they are use patents for a previously patented substance, or a patent for the substance. You also need to discuss their adequacy for protecting your proposed indications for use.

Executive Compensation - page 26

24. Please update the information through the fiscal year ended December 31, 2004.

Financial Statements - December 31, 2003

Independent Auditors` Report, page F-2

25. We note that you make reference to the predecessor auditor for their work performed from inception (November 20, 1991) through December 31, 1999. If it is your preference to continue to make such reference, please provide their audit report and related consent. Refer to rule 2-05 of Regulation S-X.

Consolidated Statements of Operations, F-4

26. Please reclassify all forgiven debt that has been under extraordinary item since inception to other income in accordance with paragraph 10 of SAFS 145.

Notes to Financial Statements, page F-8

Note A - Significant Accounting Policies, page F-8  
Other Income, page F-10

27. Please tell us the amount of and clarify for us forgiven debt for those liabilities that were "uncollectible by the creditor for a variety of reasons" as to how you were legally released by the creditors which is required by paragraph 16 of FAS 140 before a liability can be considered extinguished. Further, please separately quantify for us the amounts that relate to forgiven debt that was "inaccurately booked" and tell us how you determined the adjustment for these liabilities was not a correction of error that requires restatement of prior financial statements.

Note G - Stock Purchase Warrants, page F-13

28. We note that there was a change in the terms of certain warrants outstanding. Please include a discussion of the accounting consequences of this change and when it occurred. Supplementally, tell us the accounting literature supporting your treatment.

Signatures

29. Please identify and provide the signature of the controller or chief accounting officer.

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

You may contact Keira Ino at 202-824-5488 or James Rosenberg at 202-942-1803 if you have questions regarding comments on the financial statements and related matters. Please contact Mary K. Fraser at 202-942-1864 or me at 202-942-1840 with any other questions.

Regards,

Jeffrey P. Riedler  
Assistant Director

cc: Stephen R. Drake, Esq.  
Epstein, Becker & Green, P.C.  
150 N. Michigan Avenue, Suite 420  
Chicago, Illinois 60601

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