Mail Stop 6010 January 17, 2006

Ms. Kathleen Danenberg
President and Chief Executive Officer
Response Genetics, Inc.
1640 Marengo St., 6th Floor
Los Angeles, California 90033

Re: Response Genetics, Inc.
Registration Statement on Form SB-2, filed December 21, 2006
File No. 333-139534

Dear Ms. Danenberg:

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 our reply to your request for confidential treatment for portions of certain exhibits will be provided under separate cover.

2. 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.

3. 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.

4. Please note that where we provide examples to illustrate what we mean by our comments, they are examples and not complete lists. If our comments are applicable to portions of the filing that we have not cited as examples, please make the appropriate changes in accordance with our comments.

5. Please provide us proofs of all graphic, visual or photographic information you will provide in the printed prospectus prior to its use.

6. Please provide us your analysis as to how you meet the requirements of a "small business issuer." In particular, please refer to the public float requirement in Rule 405 of Regulation C.

7. A currently dated and signed consent from your independent accountants should be included in the amendment for which effectiveness will be requested.

8. Please revise your disclosure to identify your basis or the source for the following statements and provide us with third party support for these statements. The supporting documentation should be marked to indicate the text supporting the statements.

    - the majority of hospitals and clinics worldwide lack the infrastructure to store and archive frozen tissues,

    - hospitals today have accumulated enormous libraries of archived FFPE tissue samples taken from the majority of cancer patients,

    - existing methods of RNA extraction from FFPE samples of tumor tissue have not been considered useable for genetic profiling studies, and

    - the isolation of RNA from FFPE tissue with methods that have been published in the past is also unreliable and inconsistent in terms of RNA yield.

9. You make certain claims about your technology, such as

    - Our technologies enable us to use FFPE patient biopsies to provide highly reliable and reproducible analyses, with a success rate of over 90%,

    - We believe that we were the first company to enable access to molecular information contained in FFPE tissue specimens generated in current clinical trials as well as contained in archived FFPE created in the past clinical trials for which clinical outcomes and results are documented, and

    - Microarray gene expression profiling analysis of FFPE tissues using RGI methodology accurately separated early stage non-small cell lung cancer (NSCLC)

patients intoa group with high risk (Group 1) and a group with low risk (Group 2) of cancer recurrence.

Please expand your disclosure to discuss the basis upon which you make these claims. Do these claims arise from clinical studies and research that you conducted? If so, describe the research and the results and any statistical analysis you performed.

10. Please clarify the current status of your services outside the United States. On page 3 you refer to your "multinational clients." On page 42 you state that you have ongoing relationships with companies abroad. On page 16 you state that you have yet to begin operating labs in Europe and Asia but also state that you currently are subject to international business risks.

Prospectus Summary, page 1

11. Please revise your summary to briefly describe your "proprietary technology." For example, does this include the technology described in the bullets beginning on the bottom of page 1 and continuing on page 2?

12. On page 2 and page 35 of the prospectus you reference various statistics regarding cancer rates and the size of the market for cancer medical costs. The technologies you are developing, however, will only target a subset of the cancer markets, focusing on specific cancers. For example on page 40 you discuss how you are focusing on developing a diagnostic test for early stage lung cancer. Please revise your disclosure of these statistics to provide statistics that reflect the smaller markets that are realistic targets for your business at this time. In the alternative, you may delete the discussion.

Risk Factors, page 7

Our inability to generate sufficient cash from operations or our inability to raise additional capital . . ., page 7

13. Please expand your disclosure to quantify any current expected research expenditures that you have that are material and, to the extent practicable, please quantify how you expect your capital outlays and operating expenditures will increase over the next several years.

14. Please incorporate into this discussion the rate at which you are currently burning cash on a monthly basis.

15. This risk factor also appears to discuss essentially the same risks as the first risk factor. Please combine your discussion into one risk factor.

16. The last part of this risk factor regarding your inability to raise additional capital on acceptable terms is a separate risk. Please move this discussion to a separate risk factor.

Our revenue currently is derived primarily from, and is subject to risks faced by, the pharmaceutical industries in the United States and Japan., page 8

17. This risk factor as currently written is generic and could apply to any company in your industry completing an initial public offering. Please revise the risk factor to address the specific risks to your company.

Our rights to use technologies licensed from third parties . . . ., page 10

18. Please expand your disclosure to describe the type and amount of insurance coverage required by your material agreement with USC.

If we fail to maintain our strategic relationships with GSK or Taiho . . . ., page 14

19. Please expand this risk factor to disclose the specific circumstances or facts that could cause you to be unable to maintain your relationships with GSK and Taiho or places you at risk for loosing your collaborations with GSK or Taiho. The risk factor as currently written is too generic.

We rely on certain suppliers for some of our laboratory instruments . . . ., page 14

20. In this risk factor, you refer to "additional suppliers" that you rely on for other instrumentation necessary for your business. Please identify any suppliers that you substantially rely on for your business. Also, to the extent you have any agreements with such parties, please so indicate and describe in your Business section the material terms of the agreements. You should also file the agreements as exhibits to the registration statement. If you have determined that you are not substantially dependent on these parties, please disclose the number of suppliers that you use.

We rely on third parties for tissue samples and other materials . . . ., page 15

21. In this risk factor and on page 44 you discuss the importance to your business plan of having access to clinical samples. What third parties, if any, do you currently rely on for tissue samples? Please identify any key third parties and to the extent you have any agreements with such parties, please so indicate and describe in your Business section the material terms of the agreements. You should also file the agreements as exhibits to the registration statement. If you have determined that you are not substantially dependent on these parties, please disclose the number of parties that you use.

Failure in our information technology and storage systems . . . ., page 17

22. We note your reference in this risk factor to key information technology systems and special storage equipment. Please expand your disclosure briefly in this risk factor and in the

Business section to describe your key IT systems and your special storage equipment and how those relate to your current and planned products and services.

As a public company, we must implement additional and expensive finance and accounting systems . . . ., page 17

23. This risk factor, as currently written, could apply to any initial public offering. Please revise it so that it addresses your situation more specifically.

If we become subject to product liability claims . . . ., page 17

24. Please disclose your level of product liability insurance coverage. Please also disclose the cost to you of such coverage, if material.

Our activities involve hazardous materials . . . ., page 18

25. Please disclose whether you maintain insurance for the use of hazardous materials and, if so, the level of coverage. Please also disclose the cost to you of such coverage, if material.

Purchasers in this offering will experience immediate and substantial dilution . . . ., page 19

26. Please revise this risk factor to explain that investors who purchase shares will contribute ___% of the total amount to fund the company but will own only ___% of the shares outstanding.

Use of Proceeds, page 22

27. We note that you may use a portion of the proceeds for potential acquisitions. To the extent known, please revise your disclosure to describe the assets or businesses to be acquired and identify the persons from whom they will be bought. Also, state the cost of the assets and, where such assets are to be acquired from affiliates or their associates, give the names of the persons from whom they are to be acquired and set forth the principle followed in determining your cost. In the alternative, please state that you currently have no agreements, understandings or arrangements for any material acquisitions. See instruction 2 to Item 504 of Regulation S-B.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 27

Critical Accounting Policies and Significant Judgments and Estimates, page 27

28. Please expand your disclosures to address material implications of uncertainties associated with the methods, assumptions and estimates underlying your critical accounting measurements. Consistent with Section V of Financial Reporting Release No. 72, please include the following disclosures:

- Include an analysis of the uncertainties involved in applying a principle at a given time or the variability that is reasonably likely to result for its application over time.
- Specifically address why your accounting estimates or assumptions bear the risk of change.
- Analyze, to the extent material, such factors as how accurate the estimate or assumption has been in the past, how it has changed in the past, and whether it is reasonably likely to change in the future.
- Analyze the estimate or assumption specific sensitivity to change, based on other outcomes that are reasonably likely to occur and would have a material effect.

Results of Operations, page 29

29. Please disclose the names of your key customers and the percentage of your revenue that each accounts for. To the extent that you are substantially dependent on any key customer, please add a risk factor to discuss such dependence.

30. Please revise the comparison of periods to discuss and quantify the reasons for each significant factor that resulted in significant increases or decreases in line items on your financial statements. Refer to Financial Reporting Codification Section 501.04. Based on your existing disclosures, it appears that you could have better quantified your discussion of revenues, cost of revenues, research and development expenses and general and administrative expenses.

31. More fully explain in the discussion of 2006 why revenues on prior contracts were recognized on a quarterly basis and why this has changed in the new contract. Clarify if any of the January 2006 $2 million payment was recognized as revenue in 2006.

32. Disclose where the $17,782 gain on sale of property and equipment in 2006 presented in the statement of cash flows is included in the statement of operations.

Nine Months Ended September 30, 2006 and September 30, 2005, page 29

33. Please disclose the name of the large customer with whom you entered into a new contract that resulted in a 34.5% decrease in your revenue.

Years Ended December 31, 2005 and December 31, 2004, page 30

34. Please disclose the names of the customers with whom you entered into new contracts that contributed to the 101.8% increase in your revenue.

Liquidity and Capital Resources, page 31

35. It appears your discussion of material changes in the components of cash flows is just a reiteration of your Statement of Cash Flows. Please include a discussion and analysis of the underlying reasons for material changes in components of cash flows from operating activities, that is, explain why accounts payable and accrued expenses increased in the nine months ended September 30, 2006. Explain why cash provided by accounts receivable was $416,000 in the nine months ended September 30, 2005 as compared to cash used by accounts receivable of $11,000 in the nine months ended September 30, 2006. Please refer to Section IV of the Securities and Exchange Commission's Guidance Regarding Management's Discussion and Analysis of Financial Conditions and Results of Operations (Release Nos. 33-8350; 34-48960; FR-72).

36. Please include a discussion of the historical and expected effects of material new contracts and the achievement of revenue recognition milestones on operations and financial position. Disclose the amount and timing of material up-front payments scheduled to be received and to be recognized as revenue from your collaborative agreements over each of the next five years. Discuss any material uncertainties affecting the future realization of revenues.

Business, page 34

37. Some of the language in this section is too technical for average investors to understand, particularly language under the subheadings "Current technologies to measure gene expression," "Our Technology" and "Our Strategy." Please revise the disclosure to substitute the technical language for language that is simple and can be understood by investors. Set forth below are a few examples of language that should be simplified. You should consider these as illustrative and not exhaustive of the language that should be simplified. Please clarify the following statements and phrases:

    - Gene expression microarray technology is based on the principle of hybridization of DNA segments through complementary base-pairing. It refers to a miniaturized array of a large number (up to tens of thousands) of DNA sequences corresponding to most known genes synthesized on a silicon wafer.

    - RNA isolated by RGI-1, although suitable for RT-PCR, is suboptimal for gene expression microarrays due to yield of short fragment size RNA fragments.

    - The DNA isolated by our technology can be subjected to gene amplification, sequence and polymorphism analyses.

    - Our platforms include analysis of single biomarkers using RT-PCR methods as well as global gene interrogation using microarray methods from paraffin or frozen samples.

38. Your disclosure regarding the status of your product candidates in development is fragmented and incomplete. Please revise your disclosure to provide a clear picture of exactly what product candidates you are developing and for what indications and your current status in the development process. In the "Overview" you state that you plan to develop diagnostic tests for cancer and use bioinformatics to generate pharmacogenomic information. Are these the only product candidates you plan to develop? In the "Our Strategy" section you discuss your tests for lung cancer and some other cancer tests? Where exactly are you in the development process and what remains to be completed before the diagnostic tests can be commercialized? What other cancer types are you currently targeting? Throughout the prospectus you refer to "product candidates," but it is unclear what these product candidates are and where you are in the process of development. Your disclosure should provide a comprehensive list of all your contemplated product candidates and where you are in the development process for each.

Our Strategy, page 39

39. We note that you are working to establish relationships with companies abroad to expand your fee for service model outside the United States. Please revise your disclosure to clarify exactly where you are in the process of establish these relationships, and to the extent practicable, discuss when you expect to be able to finalize these relationships so that you are offering your services abroad.

Intellectual Property, page 45

40. We note your reference to proprietary rights in four areas. Please expand your disclosure to describe how these proprietary rights relate to the services you currently offer or plan to offer and the product candidates you are developing.

41. To the extent you have not already done so, please also expand your disclosure to describe the scope of your proprietary rights, e.g. license, patent, other.

Regulation, page 46

42. We note your statement that the "FDA will assign commercially marketed test systems into one of three CLIA regulatory categories based on their potential risk to public health." Which regulatory category will apply to your current and future services and products?

43. We note your discussion in this section and in the risk factors on page 10 that you applied for CLIA certification in September 2006 and are applying for a license to conduct testing in California. How do you currently offer your services without the CLIA certification and California license? Which of your services and future products are dependent on obtaining this certification and license? Please expand your disclosure in this section and add any appropriate risk factor discussion for any related material risks.

Strategic Collaborations, page 48

44. Your disclosure of your strategic collaborations is not complete. Please expand your disclosure to discuss the following for each collaboration:

    - For your agreement with USC, please disclose any material fees paid or payable.

    - For your agreement with Affymatrix, please disclose any material fees paid or payable, the existence of royalty provisions and obligations/rights to defend the proprietary rights associated with the relevant technology.

    - For your agreement with Roche, please describe the payment provisions, including any material fees paid or payable and the existence of royalty provisions, exclusivity provisions and obligations/rights to defend the proprietary rights associated with the technology.

    - For your agreement with Taiho, please disclose any material fees paid or payable, describe what you mean by "certain specified testing services," and describe the obligations/rights to the proprietary rights associated with the technology.

    - For your agreement with GSK, please disclose the minimum annual payments and upfront payment, to the extent material.

    - For your agreement with Applied Biosystems, please describe the term and termination provisions.

Facilities, page 51

45. Please include any material lease agreements as exhibits. See Item 601(b)(10)(i)(D) of Regulation S-B.

Management, page 52

Executive Compensation, page 55

46. In your next amendment, please update your executive compensation table for the fiscal year ended December 31, 2006. Please also update your disclosure to comply with the new executive compensation disclosure requirements as discussed in our Release No. 33-8732A.

Certain Relationships and Related Party Transactions, page 62

47. Please disclose Richard M. Smith's relationship to the company.

48. Please expand your disclosure of the promissory notes to disclose accrued interest and the material terms, including interest rate and payment terms.

49. Please update your disclosure to comply with the new related party disclosure requirements as discussed in our Release No. 33-8732A. We note that the new requirements apply to transactions which exceed the lesser of $120,000 or one percent of the average total assets at year-end for the last three fiscal years. Please revise your disclosure accordingly.

Exhibits

50. Please file your remaining exhibits, including the legal opinion with your next amendment or as soon as it becomes available as we will need time to review it prior to granting effectiveness of the registration statement.

Financial Statements

51. Please present pro forma net loss per share for the year ended December 31, 2005 and the nine months ended September 30, 2006 calculated as if all the convertible preferred stock and convertible notes payable, including accrued but unpaid dividends and interest, respectively, were converted into common stock as of the beginning of the year ended December 31, 2005 or from their respective date of issuance, if issued after the beginning of the year. Please make similar changes to your presentation in Selected Financial Data on page 26 and Summary Financial Data on page 6.

52. Explain to us and in the filing why you believe it is appropriate to recognize the $179,000 included in other income for the nine months ended September 30, 2006. Include in your explanation how you are accounting for the equipment involved and the other aspects of the contract.

53. Net income for 2005 was $1.9 million. Net income for the nine months ended September 30, 2005 was $2.1 million. That indicates that a loss of $200,000 was recognized in the quarter ended December 31, 2005. Please explain why this occurred and disclose and quantify any significant fourth quarter adjustments made and explain why those adjustment amounts, if any, should not have been recognized in an earlier quarter.

Note 8. License and Collaborative Agreements

54. Please tell us why you don't disclose here the material terms of your agreements with Taiho Pharmaceutical Co., Ltd., GlaxoSmithKline Corporation and other partners that pay you material up-front payments. Please disclose your revenue recognition policy for upfront payments received under these agreements. Please tell us how your revenue recognition for upfront payments complies with SAB 104 and how you considered EITF 00-21.

Note 10. Stock Option Plan, pages F-15-17

55. Please tell us what the exercise price will be for the 50,000 options for which the exercise price is not yet determined if the IPO is not completed. Please tell us if the options will be worthless or if there is a default exercise price in the event the IPO is not completed.

56. Provide us the number of stock options granted after September 30, 2006 through the date of your response. Also provide the exercise price, the fair value of the stock on the date of grant and how that fair value was determined.

* * * * *

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 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 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 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 Todd Sherman at (202) 551-3665 or Lisa Vanjoske at (202) 551-3614 if you have questions regarding comments on the financial statements and related matters. Please contact Sonia Barros at (202) 551-3655 or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Faith L. Charles, Esq.
Kenneth H. Yi, Esq.
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