January 15, 2009

Via EDGAR

Mr. Jay Webb
Reviewing Accountant
Division of Corporate Finance
United States Securities and Exchange Commission
Mail Stop 3030
Washington, D.C. 20549

Re: OPKO Health, Inc.
Form 10-K for the year ended December 31, 2007
Filed March 31, 2008
File No. 001-33528

Dear Mr. Webb:

We received comments during the week of January 5, 2009 from the Staff of the Division of Corporation Finance (the "Staff") of the Securities and Exchange Commission (the "SEC") dated December 17, 2008, regarding the Form 10-K for the fiscal year ended December 31, 2007 ("Form 10-K") and the Form 10-Q for the three and nine months ended September 30, 2008 of OPKO Health, Inc. (the "Company"). We appreciate your comments and have reviewed them carefully. This letter responds to the Staff's comments. For convenience, we have included the Staffs comments in italics before each of the Company's responses. References in our responses to "we," "our" or "us" mean the Company.

Form 10-K for the Year Ended December 31, 2007

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Note 1 Business and Organization, page 56

1. We note your disclosure that eXegenics, Froptix and Acuity were part of a three-way merger pursuant to the terms of a Merger Agreement dated March 27, 2007 and that you accounted for the three-way merger as a reverse merger between Froptix and eXegenics and a subsequent asset acquisition of Acuity by Froptix. Please respond to the following:

- *Please tell us how you determined that the merger should appropriately be accounted for as a reverse merger between Froptix and eXegenics and a subsequent purchase by the combined company of Acuity.*

- *Please disclose the purchase price of Acuity in the notes to the financial statements. Refer to paragraph 51 (d) of SFAS 141.*
- *Please tell us your considerations as to whether Acuity represents your predecessor.*

Revise your future filings as necessary based on the matters outlined in our comment.

Response

- *Please tell us how you determined that the merger should appropriately be accounted for as a reverse merger between Froptix and eXegenics and a subsequent purchase by the combined company of Acuity.*

After careful review of the facts of the transaction and relevant accounting literature (Rule 2-b of the Exchange Act, SFAS 141 and EITF 98-3), we determined that the merger between Froptix and eXegenics was appropriately accounted for as a reverse merger and the subsequent purchase by the combined Company of Acuity.

First, the Company evaluated if eXegenics met the definition of a public shell company under rule 2b-2 of the Exchange Act. At December 31, 2006, eXegenics had nominal operations which consisted solely of expenses (primarily administrative and professional fees) of maintaining its status as a public company and continuing its efforts to identify and pursue new business opportunities. At December 31, 2006, eXegenics had assets consisting primarily of $8.6 million of cash and nominal ($156,000) amounts of other assets. In accordance with Rule 12b-2 of the Exchange Act, we concluded that eXegenics was a shell company, which is consistent with its December 31, 2006 Form10-K disclosure on its cover.

We next considered whether, as a result of the February 9, 2007 sale of common stock to a small group of investors led by the Frost Group LLC, eXegenics and Froptix were entities under common control. Because the Frost Group:

- only controlled 41% of the voting shares of eXegenics, and the other 10% investors in the February 9, 2007 sale of common stock did not form a control group with Dr. Frost, and
- did not obtain control of the board of directors of eXegenics, and
- were not given any management positions of eXegenics,

we concluded that the Frost Group did not control eXegenics subsequent to their February 9, 2007 investment.

Next we determined that as Acuity, eXegenics and Froptix did not have saleable products and/or customers, none of the companies met the definition of a business as contemplated

in FAS 141 and EITF 98-3. As none of the entities in the three way transaction were businesses, the transaction is not a business combination, however, it was still necessary to determine the accounting acquirer in order to determine the predecessor company (the acquirer) and which set of acquired assets should be recorded at fair value. The Company considered SFAS 141, paragraph 17 to determine the proper accounting acquirer among the entities.

Froptix initiated and put the transaction together through its shareholders led by the Frost Group. In the transaction, the Froptix shareholders received the largest voting interest on an as converted basis and no shareholder group received majority voting control. The Froptix shareholders, through the Frost Group, controls the largest minority interest and has significant influence on the combined company based on its designation or appointment control of certain board nominees. The Frost Group members also have all of the senior management positions of the combined Company with the Chairman and Chief Executive Officer, Chief Technical Officer and Vice Chairman, Chief Financial Officer and Executive Vice President, all being original shareholders of Froptix. Acuity's members of senior management moved from Acuity's office in Philadelphia to Froptix' offices in Miami at sub-senior management roles. As a result we concluded that Froptix is the accounting acquirer. Therefore the transaction was accounted for as a reverse merger by Froptix into eXegenics and the acquisition by the combined entity of Acuity.

- *Please disclose the purchase price of Acuity in the notes to the financial statements. Refer to paragraph 51 (d) of SFAS 141.*

The Company disclosed the purchase price of Acuity in its Form 10-K for the year ended December 31, 2007 in combination with the acquisition of OTI in Note 2 Acquisitions. In accordance with paragraph 51(d) of SFAS 141, we will separately disclose the purchase price of Acuity and OTI in future filings.

- *Please tell us your considerations as to whether Acuity represents your predecessor.*

As discussed above, we considered the following factors consistent with paragraph 17 of SFAS 141 of whether Acuity represents our predecessor:

a) Relative voting rights
b) Large minority voting rights
c) Composition of Board of Directors
d) Composition of Senior Management
e) Terms of share for share exchange
f) Relative size

Careful consideration of each of the above factors resulted in the determination that Froptix was the accounting acquirer as its shareholders (through the Frost Group) had the largest relative voting rights, its shareholders had the largest minority voting rights and the composition of the combined company's senior management was Froptix shareholders. Note the final two factors were not considered as Froptix and Acuity's respective market values were not readily available to determine if a premium, in fact, was paid. As neither of the entities had any revenue, the relative size was not considered in determining the accounting acquirer.

Note 2 Acquisitions, page 56

2. It appears that both the acquisition of Acuity and OTI may be material to your financial statements on an individual basis. Please tell us why you believe it was appropriate to combine the acquisitions for purposes of providing the condensed balance sheet disclosing the amount assigned to each major asset and liability. As part of your response please provide us with a balance sheet for each material acquisition if appropriate based on the guidance provided by paragraph 51 (e) of SFAS 141.

Revise your future filings as necessary based on our comment.

Response

We combined the acquisitions of Acuity and OTI in our Form 10-K as the acquisition of Acuity occurred during the first quarter of 2007 and had been separately disclosed in each of our Form 10-Qs for the first three quarters of 2007. OTI was acquired during the fourth quarter of 2007 and as a result, we did not believe it was required to separately disclose the two transactions.

In accordance with paragraph 51(d) of SFAS 141, we will separately disclose the condensed balance sheets disclosing the amounts assigned to each major asset and liability of Acuity and OTI in future filings.

Below is the condensed balance sheet with the amount assigned to each major asset and liability category of Acuity at the acquisition date:

(in thousands)	
Current assets (cash of $1,135)	$ 1,350
Property and equipment	85
In-process research and development	243,761
Accounts payable and accrued expenses	(3,154)
Line of credit and term loan	(7,419)
Total purchase price	$234,623

Below is the condensed balance sheet with the amount assigned to each major asset and liability category of OTI at the acquisition date:

(in thousands)	
Current assets (cash of $1,616)	$ 4,682
Intangible assets	8,087
Other assets	602
Goodwill	1,732
Accounts payable and accrued expenses	(3,374)
Total purchase price	$11,729

3. We see that you allocated a significant portion of the purchase price of Acuity to in-process research and development. Given the significance please tell us how you determined the cost of the related in-process research and development. Please also tell us and revise your discussion in future filings to address specific research & development projects or groups of related projects as follows:

- *To the extent possible, disclose the costs incurred to date, the current status, and the estimated completion dates, completion costs and capital requirements.*
- *If estimated completion dates and costs are not reasonably certain, discuss those uncertainties.*
- *Disclose the risks and uncertainties associated with completing development projects on schedule and the consequences if they are not completed timely.*
- *Discuss your expected long-term plan for Research & Development expenditures.*

Response

Given the significance please tell us how you determined the cost of the related in-process research and development.

In accordance with SFAS 141, because Acuity did not meet the definition of a business, goodwill was not recorded in the transaction. Instead, any difference between the purchase price and the fair value of the assets acquired and liabilities assumed was allocated based on the relative fair values of the acquired net assets. We reviewed Acuity's December 31, 2006 audited historical financial statements, and noted that as expected for a development stage research and development business, Acuity had nominal assets (less than $1 million). Management prepared a historical cost March 27, 2007 balance sheet (date of consummation) and determined the fair value of the reported assets and liabilities utilizing a valuation firm to aid in the identification and valuation of its tangible and intangible assets. The fair value of the in-process research and development was determined by discounted cash flow analysis.

- *To the extent possible, disclose the costs incurred to date, the current status, and the estimated completion dates, completion costs and capital requirements.*
- *If estimated completion dates and costs are not reasonably certain, discuss those uncertainties.*
- *Disclose the risks and uncertainties associated with completing development projects on schedule and the consequences if they are not completed timely.*

As disclosed in our Form 10-K Item 7 "Managements Discussion and Analysis of Financial Condition", our research and development expenses have been focused on our lead compound, bevasiranib. Bevasiranib could potentially reach the market as early as 2012. Due to the long-term nature of the project, uncertainties around this technology, targeted indication, and the actual completion date, the costs could vary significantly. The uncertainty could be related to a number of factors including the competitive market, the drug's acceptance by our investigators, the success of our clinical trials and our competitors' clinical trials. Acuity's second compound ACU-NCT-001, did not reach technological feasibility during 2008 and has since been abandoned, and its other projects are still in various early stages of development.

The estimated cost and completion dates are not reasonably certain as a result of the uncertainties discussed in Item 1A of the Company's Form 10-K for the year ended December 31, 2007 as follows:

1. Our technologies are in an early stage of development and are unproven.
2. Our product research and development activities may not result in commercially viable products.
3. We are highly dependent on the success of our lead product candidate, bevasiranib, and our failure to commercialize bevasiranib, or the experience of significant delays in doing so, would have a material adverse effect on our business, results of operation, and financial condition.
4. The results of pre-clinical trials and previous clinical trials may not be predictive of future results, and our current and planned clinical trials may not satisfy the requirements of the FDA or other non-United States regulatory authorities.
5. We will require substantial additional funding, which may not be available to us on acceptable terms, or at all.
6. If our competitors develop and market products that are more effective, safer or less expensive than our future product candidates, our commercial opportunities will be negatively impacted.
7. Our product development activities could be delayed or stopped.
8. The regulatory approval process is expensive, time consuming and uncertain and may prevent us or our collaboration partners from obtaining approvals for the commercialization of some or all of our product candidates.

9. Our product candidates may have undesirable side effects and cause our approved drugs to be taken off the market.

10. Even if we obtain regulatory approvals or clearances for our product candidates, the terms of approvals and ongoing regulation of our products may limit how we manufacture and market our product candidates, which could materially impair our ability to generate anticipated revenues.

11. Even if we obtain regulatory approvals or clearances for our product candidates, the terms of approvals and ongoing regulation of our products may limit how we manufacture and market our product candidates, which could materially impair our ability to generate anticipated revenues.

12. If our future product candidates fail to achieve market acceptance, we may not be able to generate significant revenue or achieve or sustain profitability.

- *Discuss your expected long-term plan for Research & Development expenditures.*

We expect to continue to devote our resources and expenditures to our research and development pipeline, including the development of bevasiranib. However, our long-term plan for research and development expenditures is limited by our ability to raise sufficient capital in the debt or equity markets, or derive operating cash flow from our existing business, future business acquisitions and or product candidates. As we increase the level of activities in research and development, the need for additional funding has and will continue to increase unless we slow the development of existing projects or delay the start of new research and development projects.

Note 5 Debt, page 61

4. We see that you granted warrants to purchase 4 million shares of your common stock to the Frost Group in connection with the assumption and amendment of the line of credit previously entered into by Acuity and you determined the fair value of such warrants to be $12.4 million. Please tell us how you determined that the cost of the warrants should appropriately be allocated on a relative fair value basis to the cost of the Acuity acquisition, the cost of the reverse merger between Froptix and eXegenics and a debt commitment fee. Please cite the accounting guidance upon which you based your accounting as part of your response.

Response

In a speech on November 16, 1998 the SEC staff stated "*in transactions where an operating company reverse merges with a shell, transaction costs may be charged directly to equity only to the extent of the cash received, while all costs in excess of cash received should be charged to expense".*

As the 4 million of warrants were only issuable in the event of the consummation of the merger transaction, and most of the expansion of the line of credit commitment would only occur in the event of the consummation of the merger transactions, we determined

the value of the warrants should be allocated between costs to effect the reverse merger with eXegenics, costs to effect an asset acquisition with Acuity and costs to expand the line of credit commitment. As a result the value of the warrants was allocated based on our estimates of the relative fair value of: i. the cost of going public (reverse merger), ii. the cost of consummating an asset acquisition, and iii. the cost of the expansion of the line of credit.

Note 14 Strategic Alliances, page 70

5. We see from your disclosure that you have entered into a number of partnerships and license agreements with third parties, including the Trustees of the University of Pennsylvania, Intradigm Corporation, the Board of Trustees of the University of Illinois, the University of Florida Research Foundation, Civamide, Pathogenies and others. The majority of these agreements obligate you to make payment upon certain milestones and also pay certain royalties. Please tell us if the milestone payments and royalties that you may be obligated to pay are material and if so please confirm you will revise future filings to disclose the amounts and expected timing of any such payments.

Response

Our partnerships and license agreements with third parties including the Trustees of the University of Pennsylvania, Intradigm Corporation, the Board of Trustees of the University of Illinois, the University of Florida Research Foundation, Civamide, Pathogenies and others include milestones and royalty obligations based on the success of the respective underlying compounds licensed many of which are early stage compounds and several years from market entry. As noted above and in our filings with the SEC, the success of our research and development programs is risky and may not ever result in a commercially viable product. As a result, it is difficult to predict the timing, materiality and success of those event driven milestones and royalty obligations. At any time in the future, where the timing or amounts are known or likely and are material, we will disclose the expected timing and amounts as appropriate.

Form 10-Q for the Quarterly Period Ended September 30, 2008

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6. Please note that paragraph 43 of SFAS 142 requires the aggregate amount of goodwill to be presented as a separate line item in the statement of financial position and paragraph 45 (c) of SFAS 142 requires you to disclose the changes in the carrying amount of goodwill during the period, Please revise future filings as required based on the referenced SFAS 142 guidance.

Response

As requested by the Staff, we will disclose the changes in the carrying amount of goodwill during the period in our future filings in accordance paragraph 45 (c) of SFAS 142.

General

In connection with the Staff's comments, we acknowledge that:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filing;
- Staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Sincerely,

/s/ Rao Uppaluri
Rao Uppaluri
Senior Vice President and
Chief Financial Officer

Copy: Julie Sherman, Staff Accountant