

Mail Stop 4720

November 25, 2009

Avi Barak  
Chief Executive Officer and Director  
BioCancell Therapeutics Inc.  
Beck Science Center  
8 Hartom St, Har Hotzvim  
Jerusalem 97775  
Israel 972-2-548-6555

**Re: BioCancell Therapeutics Inc.  
Registration Statement on Form S-1  
Filed September 24, 2009  
Amendment No. 1  
Filed October 21, 2009  
File No. 333-162088**

Dear Mr. Barak:

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.

General

1. It appears you are conducting an all-or-none offering, and therefore, Exchange Act Rule 10b-9 would apply. Tell us how you will structure your offering to ensure compliance with this rule. For example, how will you provide purchasers with the "specified price" as contemplated by the rule and prompt refunds if all amounts are not sold. Explain how the funds will be segregated to ensure

availability for prompt refunds, if required. Revise the registration statement as appropriate.

2. Explain when BioCancell may begin to receive funds in connection with the offering. Based on the discussion on page 72, we assume you will receive funds only after the auction closes, bids are accepted, and shares allocated. Since you will not receive payment until after the auction closes, you may run the risk that some purchasers who are allocated shares do not pay. The registration statement should clarify whether you will place purchaser funds in an escrow or similar account until all proceeds are received. If BioCancell may receive funds, in full or a deposit, prior to acceptance of bids, please revise to detail this process.
3. Revise to clarify if you expect the auction will begin before effectiveness with bids being structured as conditional offers. If you will receive conditional offers, revise to ensure you provide appropriate safeguards to ensure compliance with Section 5. In this regard, you will need to provide withdrawal rights and ensure you have not received consideration prior to acceptance of any conditional offer. See Compliance and Disclosure Interpretation Question 139.26 under Securities Act Section 5.

#### Cover page

4. Please revise your cover page to clearly state the auction is being done on a best efforts all-or-none basis whereby BioCancell will sell 20,000 units, if any. Also, identify the price range on your cover page.

#### Risks Related to the Offering Process of Our Offering, page 18

5. Please include a risk factor discussing the self underwritten nature of your offering and the possibility that non-professionals may purchase a large portion of your offering resulting in an increased likelihood that some investors will not pay for the shares they are allocated in the offering.

#### Determining the Offering Price, page 19

6. Please revise to include a price range, rather than a range for the minimum price per share. If the NIS 825 – 1,500 is intended to be the price range, please explain why you believe this proposed range is appropriate.
7. We note that the exercise price of the warrants will be between 125% and 150% of the price per share at which the shares of Common Stock will be offered to the Company. Your disclosure states that the percentage will be determined in advance of the auction, based on indications received from potential investors. Please disclose what indications you are referring to and how management will

receive these indications. Additionally, disclose how potential investors will be provided with this information prior to the beginning of the auction.

Plan of Distribution, page 71

8. We note your statement “The prices at which the shares of Common Stock and Warrants may be sold will be determined by prevailing market prices for the shares or in negotiated transactions.” This statement does not appear consistent with the proposed offering process. Please explain the statement or remove it from your registration statement.
9. Please revise the fourth paragraph under the subsection heading titled “Auction Process” to revise the statement that a portion of the proceeds will be applied to the costs associated with the offering to clarify that you will only use proceeds from the offering to defray the costs if you complete the offering. Please further clarify that you will promptly refund all amounts if the offering does not go forward.
10. Please revise the “Acceptance of Bids” discussion to clarify what will occur if investors do not submit all amounts after they are notified of their accepted bids. For example, will you offer these shares to other bidders or lower the price?

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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 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.

Please contact Mike Rosenthal at (202) 551-3674 or myself at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey P. Riedler  
Assistant Director

Avi Barak  
BioCancell Therapeutics Inc.  
November 25, 2009  
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cc: Robert H. Cohen, Esq.  
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