



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

March 26, 2015

Via E-mail

Brian Posner
Chief Financial Officer
Alliqua BioMedical, Inc.
2150 Cabot Boulevard West
Langhorne, PA 19047

**Re: Alliqua BioMedical, Inc.
Registration Statement on Form S-4
Filed March 6, 2015
File No. 333-202593**

Dear Mr. Posner:

We have limited our review of your registration statement to those issues we have addressed in our comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Cover page

1. Please disclose clearly and prominently here and in the summary that you will not be required to complete the merger unless you receive the debt funding referenced in your disclosure. Also disclose the potential consequences to shareholders of failing to have this condition satisfied or waived. In this regard, please tell us how you intend to comply with the undertaking in paragraph (a)(1)(ii) on page II-1 once this condition is satisfied or waived.

Background of the Merger, page 51

2. Please revise to clarify how the consideration to be issued was determined through the negotiations you describe in this section. Currently, it is unclear what consideration was

initially proposed and how, when and to what extent that consideration changed and who proposed the changes.

3. Please revise to clarify the nature of the “updates” described in this section and the reference to the “overall impression” of the Celleration board. Also, when you refer to “discussions” or meetings between the parties or their representatives, please revise to clarify the substance of those discussions and meetings.
4. Please revise to clarify the terms of the offers by Party B and C and the “key terms” on which Celleration and those parties could not agree that led to termination of negotiations.

Opinion of Alliqua’s Financial Advisor, page 61

5. Please revise your disclosure on page 67 to quantify the amount of the fees, including the contingent portion, payable to the financial advisor.
6. We note the limitation on reliance in the second paragraph of Exhibit 99.1 and the disclosure on page C-4 that the opinion is intended “solely” for the board of directors. Please provide a revised opinion and consent that eliminates these disclaimers.

Interests of Celleration’s Directors and Executive Officers in the Merger, page 68

7. If any of Celleration’s affiliates will receive a portion of the liquidation preference you intend to pay, please revise to disclose the amounts they will receive. Please also revise to quantify the amounts to be received by each of Celleration’s officers as payment for in-the-money options.

U.S. Federal Income Tax Considerations, page 72

8. Given your disclosure regarding the tax consequences of this transaction and the position you and Celleration intend to take, please file the exhibit required by Regulation S-K Item 601(b)(8). See Section III.A.2 of Staff Legal Bulletin No. 19.

Appraisal Rights, page 75

9. Your disclosure may not be qualified by reference to statutes. Please revise the second paragraph on page 76 accordingly.

Debt Financing, page 79

10. Please revise to describe the “conditions” to Perceptive providing the debt financing. Please also file the commitment letter and “definitive documentation,” when executed, as exhibits.

Celleration, Inc. Financial Statements, page F-1

11. We see that you have included unaudited financial statements of Celleration, Inc. as of and for the year ended December 31, 2014, as allowed by Item 17(b) of Form S-4. Please explain to us why it is not practicable to include audited financial statements for the latest fiscal year. Please also confirm to us that the Form S-4 will not be used for resales to the public by any person deemed an underwriter within the meaning of Securities Act Rule 145(c). As a related matter, please note that the relief from the audit requirement for a target company's financial statements applies only to merger proxies and transactions registered on Form S-4 and audited financial statements for significant acquisitions will still be required in a Form 8-K after consummation of the acquisition.

Signatures, page 144

12. Please indicate who signed in the capacity of controller or principal accounting officer. See Instruction 1 to Signatures of Form S-4.

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 the information the Securities Act of 1933 and all applicable Securities Act rules require. 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 you request acceleration of the effective date of the pending registration statement, please provide a written statement from the company 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 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.

Please refer to Rules 460 and 461 regarding requests for acceleration. 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

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public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Kristin Lochhead at (202) 551-3664 or me at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Geoff Kruczek at (202) 551-3641 or Amanda Ravitz, Assistant Director, at (202) 551-3528 with any other questions.

Sincerely,

/s/ Brian Cascio

Brian Cascio
Accounting Branch Chief

Cc: Rick Werner, Esq.