Chromocell Therapeutics Corporation
4400 Route 9 South, Suite 1000
Freehold, NJ 07728

January 30, 2024

Via EDGAR

Doris Stacey Gama and Jason Drory
U.S. Securities and Exchange Commission
Division of Corporation Finance
Office of Life Sciences
100 F Street, NE
Washington, D.C. 20549

Re: Chromocell Therapeutics Corporation
Amendment No. 9 to Registration Statement on Form S-1
Filed January 16, 2024
File No. 333-269188

Dear Madam and Sir:

This correspondence responds to the letter, dated January 24, 2024, received from the staff of the Securities and Exchange Commission (the "Staff") regarding the above-mentioned Amendment No. 9 to Registration Statement on Form S-1 filed on January 16, 2024, by Chromocell Therapeutics Corporation (the "Company", "we", "us" or "our"). For convenience, the Staff's comments are restated below in bold text, with each comment followed by our response. We are concurrently filing with this letter Amendment No. 10 to Registration Statement on Form S-1 ("Amendment No. 10"). Capitalized terms used, but not defined, in this letter have the meanings ascribed to such terms in Amendment No. 10.

Amendment to Form S-1 filed January 16, 2024

Prospectus Summary
Business
Equity Line of Credit, page 1

1. We note your disclosure that you are "negotiating an arrangement with the Holder of the Investor Note to enter into an Equity Line of Credit (the "ELOC") subsequent to the IPO." Please revise to clearly disclose, if true, that an equity line of credit agreement has not been, and may never be, finalized and executed and that there is no assurance that you will enter into an equity line of credit agreement. In addition, please add a risk factor discussing the various risks relating to the potential equity line of credit agreement you are negotiating. For example only, you should discuss the potential dilutive effect, the potential impact on your liquidity, and any potential negative impact the equity line of credit agreement may have.

Response: In response to the Staff's comment, we have revised the disclosure on page 2 and elsewhere in Amendment No. 10 accordingly. In addition, under the new sub-heading "Risks Related to our Proposed ELOC", we have set forth various risks relating to the potential ELOC that we are negotiating, including, but not limited to, the potential dilutive effect, the potential impact on our liquidity and other potential negative impacts of the ELOC.

Use of Proceeds, page 42

2. Please update your disclosure to discuss the approximate amount of proceeds you intend to use for each of the Spray Formulations you licensed from Benuvia Operations, LLC or otherwise advise.

Response: In response to the Staff's comment, we have revised the disclosure on pages 6 and 42 of Amendment No. 10 to indicate the aggregate approximate amount of proceeds we intend to use for the Spray Formulations that we have licensed from Benuvia.

Business, page 53

3. We note you recently "entered into an exclusive licensing agreement (the "Benuvia License Agreement") with Benuvia Operations, LLC ("Benuvia") for a sublingual formulation of a Diclofenac spray for the treatment of acute pain (the "Diclofenac Spray Formulation"), a Rizatriptan sublingual spray formulation (the "Rizatriptan Spray Formulation") and an Ondansetron sublingual spray formulation (the "Ondansetron Spray Formulation"), diversifying [y]our pipeline of non-opioid pain treatment therapies, while adding therapeutic options for related conditions." Please update your disclosure throughout your business section where appropriate to discuss your strategy and development plans, including a discussion of the regulatory pathway(s) you plan to pursue for each of these product candidates or otherwise advise.

Response: In response to the Staff's comment, we have revised the disclosure on pages 2, 47, 54 and 55 in Amendment No. 10 to indicate that while we currently do not have strategy and development plans for the Spray Formulations licensed from Benuvia, beginning in the third quarter of 2024, we plan to develop clinical programs for each of the Spray Formulations, determine the labelling strategy that would be obtained from completion of these programs and discuss with the FDA the requirements for bringing each of the Spray Formulations to market. We anticipate bringing the Spray Formulations to market through the FDA 505(b)(2) regulatory pathway for new drug applications; however, the exact details will require further consultation with the FDA.

Our Strategy, page 54

4. We note you recently entered into a license agreement with Benuvia Operations, LLC for certain sublingual spray formulations of certain product candidates. Please update your disclosure to discuss your development strategy for these product candidates or otherwise advise.

Response: In response to the Staff's comment, we have revised the disclosure on page 55 and elsewhere in Amendment No. 10 accordingly.

Overview, page 54

5. **You state that the Diclofenac spray has started clinical development in human volunteers. Please revise your disclosure to identify your current stage of clinical development for your spray formulation of Diclofenac and disclose the material details of the "development in human volunteers" that has been conducted to date or you have started.**

Response: We respectfully advise the Staff that we have not conducted or started clinical development in human volunteers for the Diclofenac Spray Formulation; however, in response to the Staff's comment, we have added revised disclosure on page 58 and elsewhere in Amendment No. 10 to disclose the details of preliminary studies conducted by others.

6. **You state that preliminary pharmacokinetics suggest that the Diclofenac spray formulation may have a faster onset of action than oral Diclofenac tablets. Please discuss the pharmacokinetic results and how you concluded that the Diclofenac spray formulation may have a faster onset of action.**

Response: In response to the Staff's comment, we have added revised disclosure on page 58 of Amendment No. 10 of Amendment No. 10 accordingly.

7. **You state that Rizatriptan is thought to be superior to Sumatriptan by a number of clinical measures. Please provide your basis for this statement. In addition, please discuss if Sumatriptan is considered a competitor of Rizatriptan.**

Response: In response to the Staff's comment, we have added revised disclosure on page 58 of Amendment No. 10 accordingly.

8. **We note your Benuvia License Agreement appears to cover additional "Spray Formulations." Please revise your disclosure to clarify the other spray formulations you plan to develop pursuant to the Benuvia License Agreement or otherwise advise. Your disclosure should discuss the current stage of clinical development and the results of any material trials conducted to date as well as the material terms of any ongoing or planned trials for the other "Spray Formulations" you plan to develop.**

Response: We respectfully advise the Staff that we do not believe the Benuvia License Agreement covers any "Spray Formulations" other than the three Spray Formulations disclosed in Amendment No. 10 – *i.e.*, the Diclofenac Spray Formulation, the Rizatriptan Spray Formulation and the Ondansetron Spray Formulation. We have not had any conversations with Benuvia regarding any other "Spray Formulations" and have no intentions to pursue any other programs related to other "Spray Formulations" with Benuvia other than those that have been disclosed in Amendment No. 10.

Our Addressable Market, page 57

9. **If material, please update your disclosure to discuss the market(s) for the Spray Formulations you licensed from Benuvia Operations, LLC or otherwise advise.**

Response: In response to the Staff's comment, we have revised the disclosure on page 58 of Amendment No. 10 to indicate that the three Spray Formulations licensed from Benuvia are currently indicated for acute pain, migraine and the prevention of nausea and vomiting associated with chemotherapy or surgical anesthesia. All three of these conditions have a relatively high number of potential patients who may be candidates for the medication; however, we have performed no further market assessment and the performance of any such market assessment would be pre-mature. We plan to assess the addressable markets for the three Spray Formulations after we have collected further pharmacokinetic data and we have developed a strategy and development plan for the Spray Formulations in connection with our discussions with the FDA.

Intellectual Property, page 58

10. **We note your disclosure on page 86 that the "Diclofenac Spray Formulation is patented." Please update your disclosure here to discuss the material patent(s) covered by your license with Benuvia Operations, LLC, including the type(s) of patent protection, the expiration dates and the applicable jurisdictions.**

Response: In response to the Staff's comment, we have revised the disclosure on page 58 of Amendment No. 10 accordingly.

Certain Relationships and Related Party and Other Transactions, page 86

11. **We note your discussion of the Benuvia License Agreement. Please include a discussion all material terms of the agreement including a description of the rights and obligations of the parties thereto, financial terms including amounts paid to date, aggregate milestone amounts to be paid or received and the termination provisions.**

Response: In response to the Staff's comment, we have revised the disclosure on page 86 of Amendment No. 10 accordingly.

Condensed Interim Financial Statements for the Nine Months ended September 30, 2023
Note 8, Subsequent Events, page F-30

12. **Revise to provide disclosure about your accounting for the Benuvia License Agreement, including how you valued the 384,226 common shares issued in connection with the Agreement.**

Response: In response to the Staff's comment, we have revised the disclosure on page F-30 of Amendment No. 10 to provide additional disclosure about our accounting for the Benuvia License Agreement, including how we valued the 3,458,033 shares (384,226 shares after giving effect to the Reverse Stock Split) of our Common Stock issued in connection with the Benuvia License Agreement.

If you have any questions or require additional information, please contact the Company's counsel, David E. Danovitch at (212) 660-3060 or at ddanovitch@sullivanlaw.com or Aaron M. Schleicher at (212) 660-3034 or at aschleicher@sullivanlaw.com, of Sullivan & Worcester LLP.

Sincerely,

Chromocell Therapeutics Corporation

By: /s/ Francis Knuettel II
Francis Knuettel II

Interim Chief Executive Officer and
Chief Financial Officer

cc: Kristin Lochhead and Daniel Gordon, Securities and Exchange Commission
David E. Danovitch, Esq., Sullivan & Worcester LLP
Aaron M. Schleicher, Esq., Sullivan & Worcester LLP