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

DIVISION OF
CORPORATION FINANCE

December 10, 2012

Via E-mail
Scott T. Jackson
Chief Executive Officer
Celator Pharmaceuticals, Inc.
303B College Road East
Princeton, NJ 08540

Re: Celator Pharmaceuticals, Inc.
Registration Statement on Form 10-12G
Filed November 13, 2012
File No. 000-54852

Dear Mr. Jackson:

We have reviewed your filing and have the following 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 within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. 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 filing and the information you provide in response to these comments, we may have additional comments.

General

1. Pursuant to section 12(g)(1) of the Exchange Act, your registration statement will become effective by operation of law on January 14, 2013 at which time you will be required to begin filing all of the reports mandated by Section 12(g) of the Securities Exchange Act of 1934. If the review process has not been completed before that date you should consider withdrawing the registration statement prior to January 14, 2013 to prevent it from becoming effective and re-filing it at such time as you are able to respond to any remaining comments.

2. We further note that you have submitted an application for confidential treatment relating to certain of your exhibits. Please be advised that we will be performing a separate review of this application and that the review of your registration statement will not be complete until all comments concerning your confidential treatment request, if any, have been cleared.

3. Since you appear to qualify as an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, please disclose on your prospectus cover page that you are an emerging growth company, and revise your prospectus to:

   - Describe how and when a company may lose emerging growth company status;
   - Briefly describe the exemption from Section 404(b) of the Sarbanes-Oxley Act of 2002 and update your risk factor on page 37 for this exemption; and
   - State your election under Section 107(b) of the JOBS Act:
     - If you have elected to opt out of the extended transition period for complying with new or revised accounting standards pursuant to Section 107(b), include a statement that the election is irrevocable; or
     - If you have elected to use the extended transition period for complying with new or revised accounting standards under Section 102(b)(1), provide a risk factor explaining that this election allows you to delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards apply to private companies. Please state in your risk factor that, as a result of this election, your financial statements may not be comparable to companies that comply with public company effective dates. Include a similar statement in your critical accounting policy disclosures.

   In addition, consider describing the extent to which any of these exemptions are available to you as a Smaller Reporting Company.

4. Please update your financial statements and related disclosure to include the interim periods ended September 30, 2012 as required by Rule 8-08 of Regulation S-X.

Item 1. Business

5. Please expand your disclosure to disclose the material terms of the following agreements.

   - License agreement with Princeton University, including the duration and termination provisions, the material obligations, a range of royalty payments, and the aggregate payments made to date;
   - Collaborative research agreement with the British Columbia Cancer Agency, including the duration and termination provisions, the material obligations, a range of royalty payments, and the aggregate payments made to date; and
   - Settlement agreement with the British Columbia Cancer Agency.

6. On page 25, you disclose that you are a party to a research collaboration agreement with Cephalon, Inc., but that as of March 31, 2012, the agreement had been completed. Please confirm that you do not have any remaining material obligations under the agreement. Alternatively, please file a copy of the agreement and expand your disclosure to provide the material terms of the agreement.

Celator Product Candidates

Scientific Rationale for CPX-351, page 3

7. Please state expressly whether the research you have performed and the discoveries you have made, either independently or in collaboration with another entity, into combining cytarabine with daunorubicin and maintaining a 5:1 molar ratio provides conclusive evidence that your product candidate can offer an antagonism-free approach to the treatment of AML. If controversy remains in the scientific community as to any of your hypotheses, you should amend your disclosure to note this and to discuss any potential ramifications, particularly how these uncertainties cast doubt upon the possibility of developing CPX-351. Any such controversy should also be addressed wherever else appropriate in your registration statement, including the risk factor on pages 25-27.

Previous Clinical Studies with CPX-351, page 3

8. Please expand your disclosure to define complete response, leukemia clearance rate, and response rate. Similarly, on page 10, please define complete response, partial response, stable disease and progressive disease.

9. In your disclosure regarding your Phase 2 studies of CPX-351, you disclose that overall survival results demonstrated a statistically significant improvement and you disclose the relevant p-values. Please expand your disclosure to clarify if any of the other results were statistically significant and disclose the relevant p-value. Alternatively, if none of the other results were statistically significant, please expand your disclosure to clarify.

10. Please expand your table on page 6 to clarify the meaning of the asterisk used therein.

11. Please expand your disclosure regarding your Study 205 concerning CPX- 351 to disclose the adverse events observed. Similarly, please expand your disclose on page 11 to disclose the adverse events observed in your Phase 2 study of CPX-1.

Future Clinical Development of CPX-351: Summary and Conclusion, page 6

12. You disclose that elements of your Phase 3 study have been discussed with and accepted by the FDA. Please expand your disclosure throughout your filing to clarify whether or not you obtained a special protocol assessment from the FDA for this study.

13. Please expand your disclosure on page 7 to describe your "current fundraising."

Design of the Randomized Phase 3 Study in Patients with sAML – Study 301, page 7

14. Please expand your disclosure to disclose the country or countries in which you expect this trial to take place. Please also disclose whether there will be any potential impact on the FDA's review due to the fact that the study will not take place in the US. Please also consider whether you need a risk factor that discusses the material risks associated with the trial location outside the US and subsequent regulatory approvals.

Competition, page 9

15. Please list the established therapies that you consider competitive or potentially competitive to CPX-351 at this time.

Scientific Rationale of CPX-1, page 10

16. Similar to comment 7 above, please state whether the research and discoveries relating to a liposome formulation that combines irinotecan and floxuridine and maintains a 1:1 molar ratio provides conclusive evidence that your product candidate can offer an effective treatment for colorectal cancer and other cancers. If controversy remains in the scientific community as to any of your hypotheses, you should amend your disclosure to note this and to discuss any potential ramifications, particularly how these uncertainties cast doubt upon the possibility of developing CPX-1. Any such controversy should also be addressed wherever else appropriate in your registration statement, including in an independent risk factor.

Pharmaceutical Development Overview, page 12

17. Please identify the counterparty to your manufacturing and supply agreement throughout your filing and disclose the material terms of this agreement in this section, including the material payment terms, minimum quantities, exclusivity, term and termination provisions.

Patents and Patent Applications, page 14

18. Please also provide similar disclosure with respect to the material patents concerning CPX-1.

Trademarks, page 14

19. Please include a description of your material trademarks, including the products to which they relate.

Recent Developments, page 22

20. Please expand your disclosure concerning your agreement is LLS to provide the material terms of this agreement, including the duration and termination provisions, the material obligations, and the terms of the payments to LLS, including a range of royalty payments and the maximum aggregate payments to LLS.

Item 1A. Risk Factors

"All product candidate development timelines and projections in this registration statement are based on the assumption of further financing . . .," page 23

21. Please include in this risk factor your estimate of the amount of funds you will require to continue operations through mid-2013, the amount of cash and cash equivalents you currently have on hand, and the amount you anticipate will be required to complete the Phase 3 clinical trial for CPX-351.

"Celator has incurred losses since its inception and anticipates that the company will continue to incur losses for the foreseeable future . . .," page 24

22. Please state in this risk factor and on page 43 that your independent auditor, Deloitte & Touche LLP, has issued an opinion that notes that your recurring operating loss and negative cash flows from operations raise substantial doubt about your ability to continue as a going concern. In addition, please disclose the potential impact of this opinion on your ability to raise funds.

"The failure to enroll patients in clinical studies may cause delays in developing CPX-351," page 29

23. Please expand your risk factor to disclose that this Phase 3 clinical trial is designed to treat 240 patients.

"Any product candidate the Company advances into clinical studies may cause unacceptable adverse events . . .," page 29

24. Please describe the "toxicity profile" for CPX-351 as determined by your clinical studies to date and the reasons why your investigators deemed them to be acceptable. To the extent that it is material, please consider including this information in your discussion of CPX-351's Phase 1 and Phase 2 clinical trials on pages 3-6.

25. Please disclose the adverse events experienced in your clinical trials of CPX-351 and CPX-1.

"If the Company's competitors develop and market products that are more effective, safer or less expensive than CPX-351, the Company's commercial opportunities will be negatively impacted," page 31

26. Please indicate in this risk factor who you believe your principal competitors to be and both their established and developmental products that you expect will compete with CPX-351.

"Compliance with changing regulation of corporate governance and public disclosure may result in additional expenses," page 37

27. Please include in this risk factor an estimate of the annual compliance costs you will incur as a result of your reporting obligations as a public company.

"The ownership of the Company's capital stock is highly concentrated," page 42

28. Please revise both the sub-caption and the body of this risk factor to state that the heavy concentration of common stock ownership by your directors and executive officers will result in your non-affiliated stockholders' having no ability to influence corporate actions.

Item 2. Financial Information

Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview page 43

29. Please disclose the following information for each of your major research and development projects:

- The nature, objective, and current status of the project;
- The costs incurred during each period presented and to date. Reconcile total project costs to total R&D expense in the financial statements;
- The nature, timing and estimated costs of the efforts necessary to complete the project;
- The risks and uncertainties associated with completing development on schedule;
- The extent and nature of additional resources that need to be obtained if current liquidity is not expected to be sufficient to complete the project; and

- If it can be reliably determined, disclose the date of future milestones such as completion of a development phase, date of filing an NDA with a regulatory agency, or approval from a regulatory agency.

Results of Operations, page 45

30. On pages 45 and 47, please expand your disclosure to identify the one company that you have been dependent upon for all research and collaboration income.

Liquidity and Capital Resources, page 48

31. You note that through June 30, 2012 substantially all your cash resources have been derived from private investor equity financing, funding from the LLS, the sale of unused net operating tax losses and debt. This appears to at least partly contradict your statement in the risk factor on pages 24-25 that, to date, you have derived substantially all your revenue from your now-terminated research collaboration agreement with Cephalon, Inc., from LLS, and from federal and state governmental funding. Please review this disclosure for consistency and, as appropriate, amend your registration statement to remove any discrepancies.

32. You assert here that you believe that your capital resources are only sufficient to meet your operating requirements into the fourth quarter of 2013. In risk factors on pages 23 and 24 you state that you believe you will have sufficient funds to conduct its proposed plan of operations to the beginning of the third quarter of 2013. Please reconcile this discrepancy and amend your disclosure as necessary for consistency.

Item 4. Security Ownership of Certain Beneficial Owners and Management, page 54

33. In footnote disclosure, please identify the individual(s) who possess(es) voting and/or investment power over your common stock on behalf of each of your 5% beneficial owners.

Item 6. Executive Compensation, page 59

34. We note that each of your executive officers is entitled to a bonus award, but that no bonus awards were made in 2011. Please advise us of the status of such bonus awards.

President and Head of Research, page 61

35. Please update your disclosure regarding the terms of your agreement with Dr. Lawrence Mayer to be consistent with the amended and restated employment agreement filed as Exhibit 10.1 to this Form 10.

Item 7. Certain Relationships and Related Transactions, and Director Independence, page 63

36. You disclose that other than participation in the Company's financings over the previous three years, as described in Item 10 "Recent Sales of Unregistered Securities" of this Form 10 registration statement, there have been no related person transactions. Please expand your disclosure to provide the disclosure required by Item 404 of Regulation S-K, including, but not limited to, the name of each related person and the basis on which each person is a related party, each related person's interest in the transaction, and the approximate dollar value of each related person's amount involved in the transaction.

Item 11. Description of Registrant's Securities to be Registered, page 64

37. Please expand your disclosure to provide the material terms of each of your outstanding warrants and your outstanding convertible notes.

Consolidated Financial Statements for the Year Ended December 31, 2011

Notes to the consolidated financial statements

2(h) Research collaboration income, page F-10

38. Regarding your arrangements with the Leukemia and Lymphoma Society please provide disclosure of the material terms, obligations, and accounting as required by ASC 808-10-50-1. If applicable, refer to ASC 605-25 regarding application and disclosure of multiple deliverable revenue arrangements and ASC 605-28 regarding the milestone method.

7(b) Stock options, page F-16

39. Please disclose here and in the interim financial statements the following information for stock options granted during the periods presented:

    - For each grant date, the number of options or shares granted, the exercise price, and the fair value of the common stock per option;

    - Whether or not the valuation used to determine the fair value of the equity instruments was contemporaneous or retrospective; and,

    - If the valuation specialist was a related party, please state that fact.

7(c) Warrants, page F-18

40. Please expand your disclosure here and in the interim financial statements to disclose the following information for each issuance of warrants:

    - The significant terms of the warrants issued, e.g.

- The exercise provisions, including any cashless or net exercise features, and the duration of the warrants; and

- Any anti-dilution provisions that result in changes to the exercise price.

- The fair value of the warrants issued and the assumptions used to determine fair value; and

- The title of issue of securities called for by warrants or rights, and the aggregate amount of securities called for by warrants or rights outstanding. Refer to Rule 4-08(i) of Regulation S-X.

8. Income Taxes, page F-19

41. Please revise to disclose the components of loss before taxes as either domestic or foreign as required by Rule 4-08(h) of Regulation S-X. Also please explain to us how you determined the change in valuation allowances to be $5,476,326 and $6,006,780 for 2011 and 2010, respectively.

42. Please expand your disclosure on page F-20 to provide information on the NOLs sold in 2010.

Consolidated Financial Statements for the Six Months Ended June 30, 2012

Notes to consolidated financial statements

1. Nature of the business and basis of presentation, page F-28

43. Please revise to include a statement in the notes to the financial statements disclosing that the interim financial statements reflect all adjustments, which are, in the opinion of management, necessary to a fair statement of the results for the interim periods presented. See Instruction 2 to Rule 8-03 of Regulation S-X.

5. Loans payable, page 35

44. Refer to your disclosure of Additional Notes issued in 2012. Please revise to disclose the significant terms of these Notes, including what the additional amount of four times on the principal of the Notes represents.

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 Exchange Act of 1934 and all applicable Exchange 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.

In responding to our comments, please provide a written statement from the company acknowledging 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.

You may contact Christine Allen at (202) 551-3652 or Donald Abbott at (202) 551-3608 if you have questions regarding comments on the financial statements and related matters. Please contact Scot Foley at (202) 551-3383, Jennifer Riegel at (202) 551-3575 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Jennifer Riegel for

Jeffrey P. Riedler
Assistant Director

cc: John W. Kauffman, Esq.
Duane Morris LLP
30 South 17th Street
Philadelphia, PA 19103-4196