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May 19, 2014

Via Edgar

Securities and Exchange Commission Division of Corporate Finance 100 F Street, N.E. Washington, DC 20549

Re: Cellectar Biosciences, Inc.

Registration Statement on Form S-1

Ladies and Gentlemen:

This letter constitutes supplemental correspondence on behalf of Cellectar Biosciences, Inc., a Delaware corporation (the "Company"), related to and filed together with the Company's Registration Statement on Form S-1 (the "Registration Statement"). The Registration Statement covers a proposed underwritten public offering (the "Offering") by the Company of combinations consisting of shares of the Company's common stock, par value \$0.00001 per share (the "Common Stock"), and warrants to purchase shares of common stock, for an aggregate purchase price of up to \$20,000,000, plus an additional \$3,000,000 of proceeds that may be received pursuant to the exercise of a 45-day option to be granted to Aegis Capital Corp., the underwriter for the Offering, for purposes of covering over-allotments. We are also registering the issuance of the shares of Common Stock issuable upon the due exercise of the aforementioned warrants.

In relation to the Offering, the Company is currently seeking shareholder approval to complete a reverse stock split at one of a number of ratios between 1:10 and 1:20, to be selected by the Company's board of directors. The purpose of the reverse split will be to increase the market price per share of the Common Stock above the minimum required for listing on The Nasdaq Capital Market, which listing the Company intends to secure in connection with the Offering. The Company would register under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), in connection with such listing. The Company currently reports pursuant to Section 15(d) of the Exchange Act. In the event the Company elects to proceed with the reverse split, the disclosure in the Registration Statement will be updated by pre-effective amendment to reflect the effects of the reverse split on, among other things, the Company's capitalization and per share financial data. The remaining terms of the offering, other than those that may be included by supplement pursuant to Rule 424(b)(1) promulgated under the Securities Actof 1933, as amended, as well as the remaining required exhibits, will also be included by pre-effective amendment.

ATTORNEYS AT LAW

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Should a member of the Staff have any questions concerning this filing, it is requested that he or she contact the undersigned, Paul Bork, at (617) 832-1113, or in his absence, the undersigned, Matthew Eckert, at (617) 832-3057.

Very truly yours,

/s/ Matthew Eckert
Matthew Eckert

ME Enclosures

cc: Ms. Joanne Protano

Mr. Paul Bork