May 17, 2022

Andrew Robbins President and Chief Executive Officer Cogent Biosciences, Inc. 200 Cambridge Park Drive, Suite 2500 Cambridge, Massachusetts 02140

Inc.

Re: Cogent Biosciences,

Registration

Please contact Dillon

Statement on Form S-3

Filed May 6, 2022 File No. 333-264773

Dear Mr. Robbins:

This is to advise you that we have not reviewed and will not review your registration statement.

Please refer to Rules 460 and 461 regarding requests for acceleration. We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Hagius at 202-551-7967 with any questions.

Sincerely,

Division of Corporation Finance

Office of Life Sciences

cc:

Ryan A. Murr