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

DIVISION OF
CORPORATION FINANCE

April 27, 2015

Via E-mail
Christian Homsy
Chief Executive Officer
Cardio3 Biosciences S.A.
Rue Edouard Belin 12
1435 Mont-Saint-Guibert, Belgium

Re: Cardio3 Biosciences S.A.
Draft Registration Statement on Form F-1
Submitted March 31, 2015
CIK No. 0001637890

Dear Mr. Homsy:

We have reviewed your draft registration statement 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 by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Prospectus summary
Business Overview, page 1

1. Please describe the meaning and significance of the term "chimeric antigen receptor" the first time you use them in this section.

Our Product Pipeline, page 2

2. We note that your pipeline indicates that you plan to identify targets for your two earliest-stage CAR T-Cell programs in 2015. We also note your disclosure on page 111 of the registration statement noting that these two additional CAR T- cell programs are in very early pre-clinical development. In light of the early stage of development with respect to these products and the fact that you have not yet identified the specific target for

application of the product candidates, please remove both of the early-stage CAR T-cell programs from the pipeline table here and on page 102 of the prospectus.

Our Product Pipeline
C-Cure for Ischemic Heart Failure, page 2

3. Please describe the meaning and significance of the following terms the first time you use them in this section:

   - cardio progenitor cell, or cardiopoietic cells; and
   - cytokines.

4. Please briefly describe the difference between NYHA Classes II, III and IV ischemic HF when you first refer to them in this section.

Phase 2 Clinical program, page 3

5. Please revise your prospectus summary to remove any reference to p-values. Discussion of p-values and what these values indicate about the statistical significance of clinical results should be limited to sections of the prospectus where additional information on clinical results provides context for evaluating such information.

Phase 3 Clinical Program
CHARt-2, page 3

6. We note your disclosure that you are currently in discussions with the FDA regarding the design of this trial and that you anticipate initiating CHART-2 pending FDA clearance. Please expand your disclosure to clarify that the FDA currently has a clinical hold on your IND for C-Cure which prevents the initiation of your Phase 3 clinical trial of C-Cure for the treatment of ischemic HF in the United Stated and Europe and why the FDA has implemented the clinical hold. In this regard, you should highlight both the FDA's concerns with respect to the use of C-Cath and any other concerns expressed by the FDA. Please also make conforming changes in your Business section.

Risks Associated With Our Business, page 4

7. Please expand the third bullet point in this section to disclose that there is a clinical hold by the FDA on your IND for C-Cure which prevents the initiation of your Phase 3 clinical trial of C-Cure for the treatment of ischemic HF in the United Stated and Europe.

Risk Factors
Risks Related to Product Development, Regulatory Approval and Commercialization
We face intense competition and rapid technological change and the possibility…, page 28

8. Please expand your disclosure in this risk factor to provide a brief discussion of your competitors for you main product candidates C-Cure and CAR-NKG2D.

Risks Related to Intellectual Property
We depend on intellectual property licensed from third parties and termination…, page 30

9. Please expand your disclosure in this risk factor to identify the companies from whom you have licensed intellectual property and under what circumstances they can terminate their license agreements with you.

We may not be able to protect our intellectual property rights throughout the world, page 32

10. We note your disclosure in this risk factor which states, "The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally." Please revise your disclosure to identify the countries to which you are referring in this statement.

Risks Related to Our Organization, Structure and Operation
We are highly dependent on our key personnel, and if we are not successful…, page 37

11. We note your disclosure which states, "We are highly dependent on members of our executive management team particularly our chief executive officer, Christian Homsy, and our other scientific and medical personnel." Please expand your disclosure to identify the "other scientific and medical personnel" to whom you are referring.

Forward-Looking Statements, page 56

12. The Private Securities Litigation Reform Act of 1995 and Section 27A of the Securities Act of 1933 do not apply to initial public offerings. Please remove all references to these from your submission.

Market information, page 58

13. In addition to the information in the tables on page 58 of your submission listing the highest and lowest closing prices for your ordinary shares over the past several years, quarters, and months, please also provide the average daily trading volume for your ordinary shares on Euronext Brussels for each of the periods listed.

Management's discussion and analysis of financial condition and results of operations
Overview, page 69

14. Please provide the percentage of earn-out royalty payments that you are obligated to pay upon achievement of sale milestones in connection with your acquisition of CorQuest Medical, Inc.

Unaudited pro forma condensed combined financial information, page 93

15. Please revise your filing to include the audited financial statements of Oncyte LLC as indicated in the first paragraph on page 94.

16. Please explain to us why no in-process research and development, goodwill or apparent bargain purchase exists in the acquisition of Oncyte LLC. To the extent appropriate, reference for us the authoritative literature you rely upon to support your assertion.

Business

17. Where you discuss the clinical development of C-Cure and CAR-NKG2D, please disclose when the INDs for trials involving these product candidates were submitted to the FDA, the names of the trial sponsor and the subjects of the INDs.

Overview, page 99

18. We note your disclosure in the fourth paragraph on page 11 which states, "Early data from clinical trials involving CAR T-cell therapies have suggested potentially high clinical responses in difficult to treat refractory B lymphocyte, or B-cell, malignancies." Please expand your disclosure to describe the clinical trials to which you are referring, including the subject of the trials, who conducted them, when they were conducted and what you mean by "potentially high clinical responses."

Cardiovascular Disease
Clinical Development
Phase 2 Clinical Trial, page 105

19. Please describe the meaning and significance of the term "cryopreserved" when you first use it in this section.

20. With respect to the improvements you made to your manufacturing process, please briefly describe the modifications to the release criteria to ensure that desirable cells are not incorrectly rejected and the predictive tests which you believe will allow you to reject patient bone marrow that is unsuitable to yield the required number of cells for effective treatment.

Oncology
CAR T-Cell Therapy, page 107

21. Please describe what you mean by "retroviral gene therapy techniques" as discussed in the last paragraph of this section.

Pre-Clinical Development, page 109

22. Please describe the meaning and significance of the term "chemokines" the first time you use it in this section.

Licensing and Collaboration Agreements
Mayo Clinic, page 112

23. Please revise your disclosure regarding the license agreement with Mayo Clinic to provide the royalty term for which you are required to pay a low single-digit royalty as we deem the duration of royalty payments to be material information that should be reflected in the prospectus.

Dartmouth College and Celdara, page 113

24. Please file the Celdara Agreement and the Oncyte APA as exhibits.

2010 Dartmouth License Agreement, page 114

25. We note that, absent early termination, the duration of the 2010 Dartmouth License Agreement and the 2014 Dartmouth License Agreement is conditioned on the expiration date of the last to expire patent right included under the agreements. Please expand your disclosure to provide the expected expiration date of the last to expire patent right under each agreement.

Intellectual Property, page 115

26. With regard to your patent applications, we note that in several areas, you currently state that you have "more than" a certain number of patent applications pending. Please revise your disclosure throughout this section to provide the exact number of patent applications pending.

27. We note that you currently provide the dates for when your issued patents will begin to expire. Please expand your disclosure throughout this section to also provide the expected expiration date if your patent applications are approved.

Cardiac Injection Catheter Technology Patents, page 117

28. Please revise your disclosure in this section to provide:

    - the exact number of patents issued in foreign jurisdictions;
    - the foreign jurisdictions in which these patents are issued;
    - the expiration date of these issued patents;
    - the foreign jurisdiction where you have patent applications pending; and
    - the type of patent protection such as composition of matter, use or process that your issued patents provide and that your pending patent applications may provide if approved.

Cardiac Medical Device Technology Patents, page 117

29. Please revise your disclosure in this section to provide:

    - the exact number of patent applications pending in foreign jurisdictions;
    - the foreign jurisdictions in which they are pending; and
    - the type of patent protection such as composition of matter, use or process that your pending patent applications may provide if approved.

Competition, page 117

30. Please expand the last paragraph of this section to describe the non-cell based treatments from which you also face competition. Also, please identify any known companies which are currently offering these treatments.

Medisun, page 159

31. Please file your JV Agreement with Medisun and your License Agreement with Cardio3 Asia as exhibits to the registration statement.

Principal shareholders, page 162

32. Please revise your beneficial ownership table so that it is as of the most recent practicable date.

Notes to Consolidated Financial Statements
Note 2.2 Summary of significant accounting policies
2.2.6 Intangible assets
(a) Research and development costs, page F-12

33. You state that technical feasibility of completing the project is met when such project completes successfully Phase III of its development. Your accounting policy for

development costs differs from others in your industry. Ostensibly due to the risks and uncertainties relating to regulatory approval and to the research and development process, the six criteria for capitalization are considered not to have been met until a regulatory filing has been made in a major market and approval is considered highly probable. Please revise or advise.

2.2.14 Employee benefits
Defined contribution plan, page F-17

34. You disclose that an external, independent actuary prepares the calculation of the provision for employee benefit plans under the projected unit credit method. While you are not required to make reference to an independent third party, when you do and you attribute the determination of a provision to that third party in a Securities Act filing, you must disclose the name of the independent specialist and provide their consent. However, if you determined the provision and in doing so considered or relied in part upon a report from an independent specialist, please revise your disclosure to so indicate or to attribute the determination of the provision to you. Please see Question 233.02 related to Rule 436 of the Securities Act in the Compliance and Disclosure Interpretations related to Securities Act Rules.

Share-based payments, page F-18

35. In section (d) on page F-19 you indicated that previously recognized expenses associated with cancelled unvested awards are credited to retained earnings. Please tell us how your accounting complies with the guidance in paragraph 19 of IFRS 2.

Note 2.14 Business Combinations, page F-29

36. You disclose the use of independent firms to value the assets acquired and liabilities assumed in your CorQuest Medical, Inc. acquisition as disclosed on page F-29 and your Oncyte LLC acquisition as disclosed on page F-31. Please disclose the names of these independent valuation firms and provide their consents. Otherwise, if you determined the fair values and in doing so considered or relied in part upon reports from independent valuation firms, please revise your disclosure to so indicate or to attribute the determination of fair value to you.

37. Please explain to us why the pro forma revenue and loss disclosed in the penultimate paragraph on page F-31 are significantly different from your unaudited pro forma financial information presented beginning on page 93. In your response, tell us why you appear to include Oncyte grant income in revenues and why your loss appears to have decreased by €760,000 when Oncyte operated at a loss.

Other Comments

38. We note that there are a number of additional exhibits that still need to be filed. Please provide these exhibits as promptly as possible. Please note that we may have comments on these materials once they are provided.

39. Please confirm that the graphics included in your registration statement are the only graphics you will use in your prospectus. If those are not the only graphics, please provide any additional graphics prior to their use for our review.

40. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide in the Division's October 11, 2012 announcement on the SEC website at http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm.

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may contact Mark Brunhofer at (202) 551-3638 or Lisa Vanjoske at (202) 551- 3614 if you have questions regarding comments on the financial statements and related matters. Please contact Johnny Gharib at (202) 551-3170, Bryan Pitko at (202) 551-3203 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ *Bryan J. Pitko* for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Laurie A. Burlingame, Esq.
Goodwin Proctor LLP