LATHAM&WATKINS

December 8, 2021

VIA EDGAR

U.S. Securities and Exchange Commission Division of Corporation Finance Office of Life Sciences

100 F Street N.E. Washington, D.C. 20549 Attention: Christine Wong Kevin Vaugh Jordan Nimitz Christopher Edwards

Re: Bionomics Limited/ FI Registration Statement on Form F-1 Filed November 22, 2021 File No. 333-261280

Ladies and Gentlemen:

We are in receipt of the Staff's letter dated December 3, 2021 with respect to the above-referenced Registration Statement (the "*Registration Statement*") on Form F-1. We are responding to the Staff's comments on behalf of Bionomics Limited ("*Bionomics*" or the "*Company*") as set forth below. Simultaneously with the submission of this letter, the Company is publicly filing via EDGAR a Registration Statement on Form F-1 (the "*Amended Registration Statement*") responding to the Staff's comment and updating the Registration Statement.

The Company's response sets forth in this letter are numbered to correspond to the numbered comments in the Staff's letter. All terms used but not defined herein have the meanings assigned to such terms in the Amended Registration Statement. For ease of reference, we have set forth the Staff's comment and the Company's response below.

Form F-1 filed November 22, 2021

Potential Advantages of BNC210 for the Treatment of Anxiety and Stressor-Related Disorders, page 114

1. We note your response to our prior comment 4. By including the table containing the attributes of SSRIs and benzodiazepines below the text describing BNC210's advantageous attributes on page 115, your disclosure still inappropriately invites direct comparison between BNC210 and SSRIs and benzodiazepines. Please either remove the

12670 High Bluff Drive San Diego, California 92130 Tel: +1.858.523.5400 Fax: +1.858.523.5450 www.lw.com

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table, or include balancing disclosure that clearly states that no head-to-head trials have compared BNC210 to these current treatments and that you cannot guarantee that such a trial would produce these results.

Bionomics Response:

The Company has revised the disclosure on page 117 of the Amended Registration Statement in response to the Staff's comment.

Legacy Oncology Programs, page 125

2. We note your response to prior comment 4. Please delete references to the undisclosed programs. Since these programs are in clinical development, they should be disclosed. We note your response to our prior comment 6 and reissue. We understand your response that the combination therapy is material to the Company that its inclusion in the Company's pipeline will be material to an investor's understanding of the Company's programs in development. To the extent the combination therapy relating to your memorandum of understanding with EmpathBio is material, the collaboration agreement supporting the development of this product candidate is material and should be filed as an exhibit. Additionally, we note your statement that your intention to enter a definitive agreement with EmpathBio depends on the results of the preclinical feasibility studies regarding this product candidate. If the product candidate is not material given its early stage of development, then please remove the references to these product candidates from your pipeline table and your summary. You may continue to include the EmpathBio collaboration in the table on page 106.

Bionomics Response: The Company has revised the disclosure on pages 2, 3 and 5 of the Amended Registration Statement in response to the Staff's comment.

Any comments or questions regarding the foregoing should be directed to the undersigned at (858) 523-3959. Thank you in advance for your cooperation in connection with this matter.

Very truly yours,

/s/ Michael E. Sullivan

Michael E. Sullivan of LATHAM & WATKINS LLP

cc: Errol De Souza, *Bionomics Limited* Nathaniel Ajiashvili, *Latham & Watkins LLP* Cheston J. Larson, *Latham & Watkins LLP* Benjamin K. Marsh, *Goodwin Procter LLP*