

Editorial Policy Checklist

This form is used to ensure compliance with Nature Portfolio editorial policies related to research ethics and reproducibility. For further information, please see our [editorial policies](#) site. All relevant questions on the form must be answered.

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Policy information about [competing interests](#)

Competing interests declaration

In the interest of transparency and to help readers form their own judgements of potential bias, Nature Portfolio journals require authors to declare any competing financial and/or non-financial interest in relation to the work described in the submitted manuscript.

- ☒ We declare that none of the authors have competing financial or non-financial interests as defined by Nature Portfolio.
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Authorship

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Prior to submission all listed authors must agree to all manuscript contents, the author list and its order and the author contribution statements. Any changes to the author list after submission must be approved by all authors.

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Data availability

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All manuscripts must include a [data availability statement](#). This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A description of any restrictions on data availability
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- ☒ We have provided a full data availability statement in the manuscript.

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Confirm that all relevant data are deposited into a public repository and that accession codes are provided.

- ☒ All relevant accession codes are provided ☐ Accession codes will be available before publication ☐ No data with mandated deposition

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Code availability statement

For all studies using custom code or mathematical algorithm that is deemed central to the conclusions, the manuscript must include a statement under the heading "Code availability" describing how readers can access the code, including any access restrictions. Code availability statements should be provided as a separate section after the data availability statement but before the References.

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Data presentation

For all data presented in a plot, chart or other visual representation confirm that:

n/a Confirmed

- ☐ ☒ Individual data points are shown when possible, and always for $n \leq 10$
- ☐ ☒ The format shows data distribution clearly (e.g. dot plots, box-and-whisker plots)
- ☐ ☒ Box-plot elements are defined (e.g. center line, median; box limits, upper and lower quartiles; whiskers, 1.5x interquartile range; points, outliers)
- ☐ ☒ Clearly defined error bars are present and what they represent (SD, SE, CI) is noted

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Does not apply

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- ☒ ☐ Macromolecular structural data
- ☒ ☐ Unique biological materials
- ☒ ☐ Research animals and/or animal-derived materials that require ethical approval
- ☒ ☐ Human embryos, gametes and/or stem cells
- ☐ ☒ Human research participants
- ☒ ☐ Clinical data
- ☒ ☐ Archaeological, geological, and palaeontological materials

Human research participants

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Ethical compliance

- ☒ We have complied with all relevant ethical regulations and include a statement affirming this in the manuscript.

Ethics committee

Confirm that the manuscript states the name(s) of the board and/or institution that:

- ☒ Approved the study protocol -OR- ☐ Provided guidelines for study procedures (if protocol approval is not required)

Informed consent

- ☒ We have obtained informed consent from all participants and this is noted in the manuscript.

Identifiable images

For publication of identifiable images of research participants, confirm that consent to publish was obtained and is noted in the Methods.

Authors must ensure that consent meets the conditions set out in the [Nature Portfolio participant release form](#).

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I certify that all the above information is complete and correct.

Typed signature R. Brad Jones

Date 03/15/2022

