

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

Image integrity

Policy information about [image integrity](#)

- We have read Nature Portfolio's image integrity policy and all images comply.

Unprocessed data must be provided upon request. Please double-check figure assembly to ensure that all panels are accurate (e.g. all labels are correct, no inadvertent duplications have occurred during preparation, etc.).

Where blots and gels are presented, please take particular care to ensure that lanes have not been spliced together, that loading controls are run on the same blot, and that unprocessed scans match the corresponding figures.

Additional policy considerations

Some types of research require additional policy disclosures. Please indicate whether each of these apply to your study. If you are not certain, please read the appropriate section before selecting a response.

- | Does not apply | Involved in the study |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Macromolecular structural data |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Unique biological materials |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Research animals and/or animal-derived materials that require ethical approval |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Human embryos, gametes and/or stem cells |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Human research participants |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Clinical data |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Archaeological, geological, and palaeontological materials |

Macromolecular structural data

Policy information about [special considerations](#) for specific types of data

Validation report

- We have provided an official validation report from [wwPDB](#) for all macromolecular structures studied.

Biological materials

Policy information about [availability of materials](#)

Obtaining biological materials Describe any restrictions on the availability of unique materials OR confirm that all unique materials used are readily available from the authors or from standard commercial sources (and specify these sources).

- We have described these restrictions in the manuscript.
- We have described how to obtain all materials in the manuscript.

Research animals

Policy information about [studies involving animals](#); [ARRIVE guidelines](#) recommended for reporting animal research

Ethical compliance

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

Ethics committee

- We have disclosed the name(s) of the board and institution that approved the study protocol in the manuscript.

Human embryos, gametes and stem cells

Policy information about [studies involving human embryos, gametes and stem cells](#)

Manuscripts involving the use of human embryos, gametes or stem cells must include an ethics statement that provides the following information:

- The institutional and/or licensing committee(s) that approved the study protocol
- Confirmation that informed consent was obtained from all recipients and/or donors of cells or tissues
- The conditions for donating materials for the research

We have read the Nature Portfolio policy on human embryos, gametes and stem cells and have complied with policy requirements.

Human research participants

Policy information about [studies involving human research participants](#)

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](#).

Yes No identifiable images of human research participants

Clinical studies

Policy information about [clinical studies](#)

Clinical trial registration

We have provided the trial registration number from [ClinicalTrials.gov](#) or an equivalent agency in the manuscript.

Phase 2 and 3 randomized controlled trials

We have provided the [CONSORT checklist](#) with your submission.

Yes No Not a phase 2/3 randomized controlled trial

Tumor marker prognostic studies

We have followed the [REMARK reporting guidelines](#).

Yes No Not a tumor marker prognostic study

Archaeological, geological, and palaeontological materials

Policy information about studies involving [archaeological, geological, and palaeontological materials](#)

We affirm that archaeological, geological, and palaeontological materials samples were collected (and, where applicable, exported) in a responsible manner and in accordance with relevant permits and local laws, and that this information is detailed within the manuscript.

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

Typed signature

 Double-blind peer review submissions: Tanya Brodie Rudolph

Date

5 November 2022

