**Minimum Standards of Reporting Checklist**

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| **Methods Section:**1. The exact sample size (n) for each experimental group/condition (as a number, not a range). Include details of a power analysis if done, or any other relevant considerations that determined the choice of sample size. For n < 6, individual data values should be shown rather than summary statistics alone.  | Yes.  |
| 2. A description of sample collection that enables the reader to understand whether the samples represent technical or biological replicates, and an explanation of inclusion/exclusion criteria if samples or organisms were excluded from the analysis.  | Yes.  |
| 3. How samples/ organisms were allocated to experimental groups and processed, and full details of the randomisation procedure used (if relevant).  | N/A |
| 4. For sample assessment by human investigators, a statement on whether the investigator was blinded to group assignment and outcome assessment, and how this blinding was achieved and evaluated (if relevant).  | N/A |
| 5. How many times each experiment shown was replicated and an indication of the extent of variation from experiment to experiment.  | N/A |
| 6. Information on the statistical methods and measures used. It should be clear whether the tests are one-sided or two-sided, whether there are adjustments for multiple comparisons, whether medians or means are being shown, whether error bars are standard deviations (SD), standard error of mean (SEM) or confidence intervals.  | Yes.  |
| 7. A justification for the appropriateness of statistical tests used to assess significance. Do the data meet the assumptions of the tests? Is there an estimate of variation within each group of data, and is the variance similar between groups that are being statistically compared?  | Yes.  |
| In addition, information essential to interpreting the data presented should be made available in the figure and table legends.  | Yes.  |
| **Resources** A description of all resources used should be included in the Methods section, with enough information to allow them to be uniquely identified.  | Yes.  |
| **Availability of data and materials** All datasets on which the conclusions of the paper rely must be either deposited in publicly available repositories (where available and ethically appropriate) or presented in the main paper or additional supporting files, in machine-readable format whenever possible. If authors are unable to fulfil this requirement, they should contact journal editorial staff, after checking our list of Recommended Repositories. Links to deposited datasets, or datasets in additional files, should be explicitly referenced in a section entitled “Availability of Data and Materials”. Guidance on where to deposit your data can be found on the Availability of Data and Materials policy page. If computer code was used to generate results that are central to the paper’s conclusions, include a statement in the “Availability of data and materials” section to indicate how the code can be accessed. Include version information and any restrictions on availability. For deposited data and published code, a full reference with an accession number, doi or other unique identifier should be included in the reference list. If reproducible materials are generated as a result of the research (for example new animal mutants), a statement on their availability should be included. | Yes.  |