***eLife’s* transparent reporting form**

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**Sample-size estimation**

* You should state whether an appropriate sample size was computed when the study was being designed
* You should state the statistical method of sample size computation and any required assumptions
* If no explicit power analysis was used, you should describe how you decided what sample (replicate) size (number) to use

Please outline where this information can be found within the submission (e.g., sections or figure legends), or explain why this information doesn’t apply to your submission:

Number of experimental replicates are described in each figure legend, where appropriate, and in the Materials and Methods sections pertaining to each respective experiment.

**Replicates**

* You should report how often each experiment was performed
* You should include a definition of biological versus technical replication
* The data obtained should be provided and sufficient information should be provided to indicate the number of independent biological and/or technical replicates
* If you encountered any outliers, you should describe how these were handled
* Criteria for exclusion/inclusion of data should be clearly stated
* High-throughput sequence data should be uploaded before submission, with a private link for reviewers provided (these are available from both GEO and ArrayExpress)

Please outline where this information can be found within the submission (e.g., sections or figure legends), or explain why this information doesn’t apply to your submission:

Experiments were generally conducted with at least 3 technical replicates and repeated 3 times to yield biological replicates. This is described in the appropriate figure legend and Materials and Methods section. We have used general conventions of ‘*n*’ and ‘*N*’ to indicate technical and biological replicates, respectively. Furthermore, a description of biological versus technical replication is described under the Materials and Methods section where appropriate.

In Figure 7, we used the Turkey 1.5 × interquartile range method to remove any clear outliers, however, had a larger technical replicate size to compensate for this. This is described in the Materials and Methods section.

**Statistical reporting**

* Statistical analysis methods should be described and justified
* Raw data should be presented in figures whenever informative to do so (typically when N per group is less than 10)
* For each experiment, you should identify the statistical tests used, exact values of N, definitions of center, methods of multiple test correction, and dispersion and precision measures (e.g., mean, median, SD, SEM, confidence intervals; and, for the major substantive results, a measure of effect size (e.g., Pearson's r, Cohen's d)
* Report exact p-values wherever possible alongside the summary statistics and 95% confidence intervals. These should be reported for all key questions and not only when the p-value is less than 0.05.

Please outline where this information can be found within the submission (e.g., sections or figure legends), or explain why this information doesn’t apply to your submission:

(For large datasets, or papers with a very large number of statistical tests, you may upload a single table file with tests, Ns, etc., with reference to sections in the manuscript.)

Data from 3 technical replicates are reported as mean ± S.D. (*n* = 3). Data from 3 biological replicates are reported as mean ± S.E.M. (*N* = 3). This is clearly described in the figure legends, where appropriate.

For dose response curves in Figure 4 and Figure 7, GraphPad Prism was used to calculate the appropriate values including the fit, which is provided in each appropriate figure legend. Exact number of replicates is provided alongside figures and in the Materials and Methods section related to the experiment.

**Group allocation**

* Indicate how samples were allocated into experimental groups (in the case of clinical studies, please specify allocation to treatment method); if randomization was used, please also state if restricted randomization was applied
* Indicate if masking was used during group allocation, data collection and/or data analysis

Please outline where this information can be found within the submission (e.g., sections or figure legends), or explain why this information doesn’t apply to your submission:

No group allocations were necessary for this study as we had vehicles as the controls in each experiment as described in the appropriate methodology under Materials and Methods.

**Additional data files (“source data”)**

* We encourage you to upload relevant additional data files, such as numerical data that are represented as a graph in a figure, or as a summary table
* Where provided, these should be in the most useful format, and they can be uploaded as “Source data” files linked to a main figure or table
* Include model definition files including the full list of parameters used
* Include code used for data analysis (e.g., R, MatLab)
* Avoid stating that data files are “available upon request”

Please indicate the figures or tables for which source data files have been provided:

Raw data values used to generate Table 2, Figure 4, Figure 6, Figure 7 and Figure 8 in the Results are uploaded as “Source Data” for each table and figure.