***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:

We repeated experiments multiple times (see below) and presented a representative data in the manuscript. Thus, the information on sample-size estimation does not apply to our submission.

**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)

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We repeated experiments multiple times and found that the results were reproducible. Basically, we carried out technical replication experiments. Information on the number of technical replicates for each experiment were included in the legends to Figure 1, 3, 4 and 5A, B and the legends to Figure1-figure supplements 1, 2, 3,4 and 5, Figure2-figure supplements 1A and 4, Figure 3-figure supplement 1 and Figure5- figure supplements 1 and 2. In the case of Figure 2, Figure 5C and Figure 2-figure supplement 3, we performed biological replication experiments. Information on the number of biological replicates for each experiment were included in the legends.

**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.

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We repeated experiments multiple times (see above) and presented a representative data. In several experiments, we conducted statistical analysis using the Microsoft Excel software. We presented the mean values with S.D. in each graph. Information on exact values of N and the statistical definition was presented in the legends to Figure 2, 3 and 4 and Figure 2-figure supplements 1, 3 and 4 and Figure 5-figure supplements 1and 2.

(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.)

**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

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Our research does not target animals and human beings. Thus, the information on group allocation does not apply to our submission.

**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:

We have already uploaded “Source data” files for Figures 2, 3 and 4 , Figure 2-figure supplements 1, 3 and 4 and Figure 5-figure supplements 1and 2, where all the gel images used for quantification and both all the quantified and the statistical data are provided as PDF files and Excel files, respectively.