***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

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In our experiments sample size estimation was not adequate.

**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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Except for cases specified in Materials and Methods, the experiments were carried out on multiple histological samples and were repeated on several times.

Fig. 1A-C; Supplementary File 1: N=3 (adult human brain) – indicated in the Results, in the Figure, in the Figure legend, in the Materials and Methods and in the Supplementary File 2.

Fig. 1D-F: N=1 (12 cells from putamen sample #20) – indicated in the Results, in the Materials and Methods and in the Supplementary File 2.

Fig. 1G-I: N=4 – indicated in the Results, in the Materials and Methods and in the Supplementary File 2.

Fig. 1I: N=1 – indicated in the Results, in the Materials and Methods and in the Supplementary File 2.

Fig. 2A: N=3 – indicated in the Results, in the Materials and Methods and in Supplementary File 2.

Fig. 2B: N=10 – indicated in the Results, in the Materials and Methods and in Supplementary File 2.

Fig. 2C: N=2 – indicated in the Results, in the Materials and Methods and in the Supplementary File 2.

Fig. 2D: N=5 – indicated in the Results, in the Materials and Methods and in the Supplementary File 2.

Fig. 2E-G: N=2 (MBH); N=5 (Pu); N=2 (Cd); N=3 (Cl) – indicated in the Results, in the Figure, in the Figure legend and in the Supplementary File 2.

Fig. 3A-B: N=7 (97 cells) – indicated in the Results, in the Figure, in the Figure legend, in the Materials and Methods and in the Supplementary File 2.

Fig. 2C-E: N=2 – indicated in the Results, in the Materials and Methods and in Supplementary File 2.

Fig. 4: N=2 (300 & 600 cells/putamen) – indicated in the Results, in the Figure, in the Figure legend, in the Materials and Methods and in the Supplementary File 2.

No data were excluded.

For reviewers, BioProject's metadata is available at <https://dataview.ncbi.nlm.nih.gov/object/PRJNA680536?reviewer=3kq7t81v94n5n15nh7q1d9uai0>

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* 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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(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.)

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* 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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**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:

No source data have been provided.