## natureresearch

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## Reporting Summary

Life sciences

Behavioural & social sciences

Nature Research wishes to improve the reproducibility of the work that we publish. This form provides structure for consistency and transparency in reporting. For further information on Nature Research policies, seeAuthors & Referees and theEditorial Policy Checklist.

| Sta   | atistics   |  |  |  |  |
|---|--|--|--|--|--|
| For   | all statistical analyse  | es, confirm that the following items are present in the figure legend, table legend, main text, or Methods section.  |  |  |  |
| n/a   | Confirmed  |  |  |  |  |
|   | The exact sam  | ple size $(n)$ for each experimental group/condition, given as a discrete number and unit of measurement   |  |  |  |
|   | 🗶 A statement o  | n whether measurements were taken from distinct samples or whether the same sample was measured repeatedly   |  |  |  |
| ×   |  | test(s) used AND whether they are one- or two-sided ests should be described solely by name; describe more complex techniques in the Methods section.  |  |  |  |
| x   | A description of   | of all covariates tested   |  |  |  |
| ×   | A description of   | of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons  |  |  |  |
|   | A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficien AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals)                             |  |  |  |  |
| x   | For null hypothesis testing, the test statistic (e.g. <i>F</i> , <i>t</i> , <i>r</i> ) with confidence intervals, effect sizes, degrees of freedom and <i>P</i> value noted <i>Give P values as exact values whenever suitable.</i>  |  |  |  |  |
| ×   | For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings   |  |  |  |  |
| ×   | For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes   |  |  |  |  |
| ×   | Estimates of effect sizes (e.g. Cohen's $d$ , Pearson's $r$ ), indicating how they were calculated   |  |  |  |  |
|   | •  | Our web collection on <u>statistics for biologists</u> contains articles on many of the points above.  |  |  |  |
| So  | ftware and c   | ode  |  |  |  |
| Poli  | cy information abou  | ut availability of computer code   |  |  |  |
| Da  | ata collection   | Crystal structure data collection was performed using HKL2000, Coot, and Phenix.   |  |  |  |
| Da  | ata analysis   | GraphPad Prism, Metamorph, Pymol   |  |  |  |
| For manuscripts utilizing custom algorithms or software that are central to the research but not yet described in published literature, software must be made available to editors/review to enter the strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Research guidelines for submitting code & software for further information. |  |  |  |  |  |
| Da  | ta   |  |  |  |  |
| All   | manuscripts must i<br>- Accession codes, uni<br>- A list of figures that l   | ut <u>availability of data</u> nclude a <u>data availability statement</u> . This statement should provide the following information, where applicable: que identifiers, or web links for publicly available datasets have associated raw data restrictions on data availability |  |  |  |
|   | The coordinates and structure factors of DegPS210A•TMB_CYYKI and DegPS210A•TMB_CYRKL have been deposited in the Protein Data Bank under the accession codes 6JJK and 6JJO, respectively. Source data for graphs in this study are available in Supplementary Data (in Excel format). |  |  |  |  |
|   | •  | fic reporting  |  |  |  |
| Plea  | se select the one be   | elow that is the best fit for your research. If you are not sure, read the appropriate sections before making your selection.  |  |  |  |

Ecological, evolutionary & environmental sciences

## Life sciences study design

| Sample size     | N/A  |
|-----------------|--|
| Data exclusions | N/A  |
| Replication     | All experiments were repeated three times. Data were reproducible. |
| Randomization   | N/A  |
| Blinding        | N/A  |

## Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

| Ma  | terials & experimental systems | Methods                   |  |
|-----|--------------------------------|---------------------------|--|
| n/a | Involved in the study          | n/a Involved in the study |  |
| X   | Antibodies                     | ChIP-seq                  |  |
| X   | Eukaryotic cell lines          | Flow cytometry            |  |
| ×   | Palaeontology                  | MRI-based neuroimaging    |  |
| ×   | Animals and other organisms    | ·                         |  |
| x   | Human research participants    |                           |  |
| ×   | Clinical data                  |                           |  |