We thank the editors for their comments. We describe below how we have further revised the paper based on the new comments. All page/line numbers refer to the tracked manuscript.

General formatting:
1. Our standard word limit is 2000 words for the Introduction, Results and Discussion. Your current manuscript does not exceed this limit and is currently 1653 words.

No action needed.

2. This format begins with an introductory paragraph (not abstract) of approximately 200 words, summarizing the background, rationale, main results and implications. This paragraph should be referenced, as in Nature style. Your paragraph is currently 213 words, please amend if you can.

By our count the word count is 195.

3. As a guideline, up to 40 references are allowed in the main text. An additional 20 references can be included in the Online Methods. Only papers that have been published or accepted by a named publication or recognized preprint server should be in the numbered list. Published conference abstracts, numbered patents and research data sets that have been assigned a digital object identifier may be included in the reference list.

No action needed.

4. All references must be cited in numerical order. Place Methods-only references after the Methods section and continue the numbering of the main reference list (i.e. do not start at 1).

No action needed.

5. Equations and symbols that will be set apart from the text must be in an editable format. Do not use embedded images for equations or symbols.

No action needed.

6. Genes must be clearly distinguished from gene products (e.g., "gene Abc encodes a kinase," not "gene Abc is a kinase"). For genes, provide database-approved official symbols (e.g., NCBI Gene,http://www.ncbi.nlm.nih.gov/gene) for the relevant species the first time each is mentioned; gene aliases may be used thereafter. Italicize gene symbols and functionally defined locus symbols; do not use italics for proteins, noncoding gene products and spelled-out gene names.

No action needed.

Figures and Tables:
7. All figures and tables, including Extended Data, must be cited in the text in numerical order. Please correct the following: Extended Data Figure 4 is not cited.

We have done so. (P. 6, Lines 120-121).

8. Figure legends should be concise. Begin with a brief title and then describe what is presented in the figure and detail all relevant statistical information, avoiding inappropriate methodological detail.

No action needed.

9. Shadings or symbols in graphs must be defined in some fashion. We prefer that you use a key within the image; do not include colored symbols in the legend.

No action needed.

10. All relevant figures must have scale bars (rather than numerical descriptions of magnification).

No action needed.

11. All relevant figures must have defined error bars.

No action needed.

12. Red/green color contrasts can confuse our colorblind readers; please consider recoloring figures, if needed.

No action needed.

13. Graph axes should start at zero and not be altered in scale to exaggerate effects. A 'broken' graph can be used if absolutely necessary due to sizing constraints, but the break must be visually evident and should not impinge on any data points.

No action needed.

14. Cropping of gel and/or blot images must be mentioned in the figure legend. Gel pieces should be separated with white space (do not add borders). Please ensure that all blots and gels are accompanied by the locations of molecular weight/size markers; at least one marker position must be present in all cropped images. Please also supply full scans of all the blots and gels as Source Data and reference this figure from the main paper.

No action needed.

15. All bar graphs should be converted to a dot-plot format or to a box-and-whisker format to show data distribution. All box-plot elements (center line, limits, whiskers, points) should be defined.

No action needed.

Statistics and Reproducibility:

16. The Methods must include a statistics section where you describe the statistical tests

used. For all statistics (including error bars), provide the EXACT n values used to calculate the statistics (reporting individual values rather than a range if n varied among experiments) AND define type of replicates (e.g., cell cultures, technical replicates). Please avoid use of the ambiguous term "biological replicates"; instead state what constituted the replicates (e.g., cell cultures, independent experiments, etc.). For all representative results, indicate number of times experiments were repeated, number of images collected, etc. Indicate statistical tests used, whether the test was one- or two-tailed, exact values for both significant and non-significant P values where relevant, F values and degrees of freedom for all ANOVAs and t-values and degrees of freedom for t-tests.

No action needed.

17. As you are already aware, Nature Research is taking an active approach to improving our transparency standards and increasing the reproducibility of all of our published results. Detailed information on experimental design and reagents that was formerly required to be included in the body of your paper is now collected on our recently updated Life Sciences Reporting Summary, which will be published alongside your paper. Please provide an updated version of the Reporting Summary with your final files.
The Reporting Summary can be found here: https://www.nature.com/authors/policies/ReportingSummary.pdf
Please be sure that you cite the Reporting Summary in the Methods section of your papers (by name as "Life Sciences Reporting Summary") in the body of your papers so that it is clear to our readers where this information can be found.

We have uploaded an updated Reporting Summary with the paper revisions.

Supplementary Information & Extended Data:
Please carefully review the Extended Data instructions included in the attached Formatting Guide.
18. EXTENDED DATA: Extended Data are an integral part of the paper and only data that directly contribute to the main message should be presented. These figures will be integrated into the full-text HTML version of your paper and will be appended to the online PDF. There is a limit of 10 Extended Data figures, and each must be referred to in the main text. Each Extended Data figure should be of the same quality as the main figures, and should be supplied at a size that will allow both the figure and legend to be presented on a single legal-sized page. Each figure should be submitted as an individual .jpg, .tif or .eps file with a maximum size of 10 MB each. All Extended Data figure legends must be provided in the attached Inventory of Accessory Information, not in the figure files themselves.

We have uploaded updated Extended Data files.

SUPPLEMENTARY INFORMATION: Supplementary Information is material that is essential background to the study but which is not practical to include in the printed version of the paper (for example, video files, large data sets and calculations). Each item must be referred to in the main manuscript and detailed in the attached Inventory of Accessory Information. Tables containing large data sets should be in Excel format, with the table number and title included within the body of the table. All textual

information and any additional Supplementary Figures (which should be presented with the legends directly below each figure) should be provided as a single, combined PDF. Please note that we cannot accept resupplies of Supplementary Information after the paper has been formally accepted unless there has been a critical scientific error.

We have uploaded updated Supplementary Information.

All Extended Data must be called you in your manuscript and cited as Extended Data 1, Extended Data 2, etc. Additional Supplementary Figures (if permitted) and other items are not required to be called out in your manuscript text, but should be numerically numbered, starting at one, as Supplementary Figure 1, not SI1, etc.

We have done so.

19. SOURCE DATA: We encourage you to provide source data for your figures whenever possible. Full-length, unprocessed gels and blots must be provided as source data for any relevant figures, and should be provided as individual PDF files for each figure containing all supporting blots and/or gels with the linked figure noted directly in the file. Statistics source data should be provided in Excel format, one file for each relevant figure, with the linked figure noted directly in the file. For imaging source data, we encourage deposition to a relevant repository, such as figshare (https://figshare.com/) or the Image Data Resource (https://idr.openmicroscopy.org).

We will provide source data via www.globalenvhealth.org

Other:

20. Nature Research journals encourage authors to share their step-by-step experimental protocols on a protocol sharing platform of their choice. Nature Research's Protocol Exchange is a free-to-use and open resource for protocols; protocols deposited in Protocol Exchange are citable and can be linked from the published article. More details can found at www.nature.com/protocolexchange/about.

No action needed.

All error bars need to be defined in the legends (e.g., SD, SEM) together with a measure of centre (e.g. mean, median), and should be accompanied by their precise n number defined as noted above.

We have done so, please see specific comments below.

Please indicate how estimates of effect sizes were calculated (e.g., Cohen's d, Pearson's r).

We have done so, please see specific comments below.

Specific comments:

Figure 4
Please define the centre values and error bars in the figure legend.

We have done so. (P. 25, Lines 552-553).

Extended Data Figure 4.
Please define the centre values and error bars in the figure legend.

We have done so in the (Inventory of Supporting Information, P. 3).

Extended Data Table 3
Please state the method used to determine the correlation (e.g. Spearman's, Pearson's).

We have done so. (Supplementary Information, P. 4, Line 25).

Extended Data Table 4
Please state the method used to determine the correlation (e.g. Spearman's, Pearson's).

We have done so. (Supplementary Information, P. 5, Line 29).