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

We encourage authors to provide detailed information *within their submission* to facilitate the interpretation and replication of experiments. Authors can upload supporting documentation to indicate the use of appropriate reporting guidelines for health-related research (see [EQUATOR Network](http://www.equator-network.org/%20)), life science research (see the [BioSharing Information Resource](https://biosharing.org/%22%20%5Ct%20%22_blank)), or the [ARRIVE guidelines](http://www.plosbiology.org/article/info%3Adoi/10.1371/journal.pbio.1000412) for reporting work involving animal research. Where applicable, authors should refer to any relevant reporting standards documents in this form.

If you have any questions, please consult our Journal Policies and/or contact us: editorial@elifesciences.org.

**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:

* In all experiments performed on cells in culture, the size of the samples is the total number of cells in a well, whatever its size, or the total number of cells obtained after sorting
* In the experiment performed on mice (figure 4), since similar experiments were never done, the number of mice was not computed but arbitrary chosen. The details on the number of mice, number of skin fragments and number of cells in the dermis analyzed are given in the figure legend
* For standard immunofluorescent experiments (Figure 2 -figure supplement 4; Figure 2 – figure supplement 5), we quantified cells positive for the protein of interest in about 100 cells per condition. This number was not computed but was based on our personal expertise in the expression of the protein of interest
* For immunofluorescent experiments analyzed by high content microscopy, the positive cells were quantified amongst 100 cells of all the wells of a column
* For comet assays, the comet tails were measured in 50-250 cells according to the experiment. This number was not computed but was based on our personal expertise on this technic
* All this information is given in the figure legends

**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:

* When not indicated in the figure legend, the experiment (exactly the same as in the figure) was performed only once
* However, most of the experiments where done several times, with some differences in the used technique or with a different cell donor. The supplementary experiments are given as figure supplements
* The number of replicates is given in each figure legend. We do not use the terms biological or technical replicates, but clearly write what was replicated
* We never excluded outliers or any data

**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:

* Statistical analysis methods are described and justified in a dedicated paragraph of the Material and Methods section and given for each experiment in the figure legend
* All raw data are given as source data files, including exact p-values when excel files. When the graphs were built with GraphPad Prism, a pdf given as source data gives the normality tests and the p-values

(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

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:

N/A

**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:

All numerical data corresponding to graphs are given as source data files