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

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* You should state whether an appropriate sample size was computed when the study was being designed
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A sample size power analysis is given in the statistics section of the methods.

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* You should report how often each experiment was performed
* You should include a definition of biological versus technical replication
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Numbers of cell couples analyzed and of independent experiments are given in the figure captions. Identification of outliers using Chauvenet’s criterion is described in the statistics section.

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* Statistical analysis methods should be described and justified
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* 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)
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Statistical methods are described in a dedicated part of the methods section.

(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
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T cells were randomly allocated to different treatment groups and masking was not used.

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* 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
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Please indicate the figures or tables for which source data files have been provided:

All imaging data are openly accessible through <http://murphylab.cbd.cmu.edu/data/TcellLAT2018/>

as indicated in the manuscript