***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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This information is contained within figure legends and Material and methods.

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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
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Where applicable, animals were randomly allocated to control and experimental groups.

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All experimental data information of figures and figure supplements can be found in experimental data.

To identify the phase change time points for each fly event, we have used the Sapphire, our newly developed algorithm and web application. We have deposited the code of Sapphire in The GitHub (https://github.com/kanglab/Sapphire/tree/master). the All statistical analyses have used Prism 8 software.