***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

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:

ATP hydrolysis assays were repeated three times as technical replicate (Fig. 2C legend, Fig. 2 figure supplement 1A). Electrophoretic mobility shift assays (Figure 2-figure supplement 1B) were repeated six times as technical replicate and quantified (Fig. 2 figure supplement 1 legend). No statistical method of sample size computation was used.

**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
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* 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:

ATP hydrolysis assays were repeated three times as technical replicate (Fig. 2C legend, Fig. 2 figure supplement 1A). Electrophoretic mobility shift assays (Figure 2-figure supplement 1B) were repeated six times as technical replicate and quantified (Fig. 2 figure supplement 1 legend). Technical replicate: three independent activity measurements using the same preparation of proteins. No values were excluded from the data.

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* 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.

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ATPase assays are reported as mean +/- standard deviation of three technical replicates (Fig. 2C, Figure 2-figure supplement 1). EMSA assays are reported as mean +/- standard deviation of six technical replicates (Figure 2-figure supplement 1).

(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

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No allocation was performed and no masking used.

**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:

We provide source file and calculation for Figure 2 and Figure 2-figure supplement 1. Figure 2‒source data 1: raw data from the ATPase activity assay used for Figure 2C and Figure 2‒figure supplement 1A. Figure 2-source data 2: raw data from quantification of electrophoretic mobility shift assay used for Figure 2‒figure supplement 1B.