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* You should state whether an appropriate sample size was computed when the study was being designed
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Information regarding sample sizes determination is provided in the “Statistical analysis” sub-section of the Materials and Methods section of the manuscript; sample sizes are for biological replicates are indicated in figure legends.

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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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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:

Nematodes were picked at random, under a dissecting microscope, into cohorts corresponding to independent experimental variables; this information is specified in the Materials and Methods, in the appropriate respective sub-sections as follows: Respiration assay, Sub-organismal selection assay, Experimental evolution, Diet restriction, Insulin signaling inactivation, Knockdown of gene expression

**Additional data files (“source data”)**

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Summary statistics tables are included as source data files to accompany figures 2 and 6, corresponding to the experiments that measure the effects of sub-organismal and organismal selection on mutant mtDNA frequency.