

SUPPLEMENTARY METHODS

Primers for Quantitative PCR

The primer oligonucleotide sequences for the *Sod1* [1], *Sod2* [2], *Cat* [1], *dSir2* [3], *Thor* [4], *InR* [5], *ImpL* [6], *dilp2* [7], *dilp3* [7], *dilp5* [7], and *rp49* [8] analyses are as follows:

Sod1: forward, 5'-GTT CGG TGA CAA CAC CAA TG-3', reverse, 5'-GGA GTC GGT GAT GTT GAC CT-3'; *Sod2*: forward, 5'-TGT TCG TGG CCC GTA AAA T-3'; reverse, 5'-GTC TGG TGC TTC TGG TG-3'; *Cat*: forward, 5'-TAC GAG CAG GCC AAG TT-3', reverse, 5'-ACC TTG TAC GGG CAG TTC AC-3'; *dSir2*: forward, 5'-CGC ACA CCA ACA ACT ATT CG-3', reverse, 5'-CGG TAG CAA TGG TGA CAA TG-3'; *Thor*: forward, 5'-GAA GGT TGT CAT CTC GGA TCC-3', reverse, 5'-ATG AAA GCC CGC TCG TAG A-3'; *InR*: forward, 5'-AAC AGT GGC GGA TTC GGT T-3', reverse, 5'-ACT CGG AGC ATT GGA GGC AT-3'; *ImpL*: forward, 5'-GCC GAT ACC TTC GTG TAT CC-3', reverse, 5'-TTT CCG TCG TCA ATC CAA TAG-3'; *dilp2*: forward, 5'-ACG AGG TGC TGA GTA TGG TGT CGC-3', reverse, 5'-CAC TTC GCA GCG GTT CCG ATA TCG-3'; *dilp3*: forward, 5'-CAG GCC ACC ATG AAG TTG TGC-3', reverse, 5'-CTT TCC AGC AGG GAA CGG TCT TCG-3'; *dilp5*: forward, 5'-TGT TCG CCA AAC GAG GCA CCT TGG-3', reverse, 5'-CAC GAT TTG CGG CAA CAG GAG TCG-3'; *rp49*: forward, 5'-TCC TAC CAG CTT CAA GAT GAC-3', reverse, 5'-CAC GTT GTG CAC CAG GAA CT-3'.

Measurement of dehydration

The level of water content was measured as described (9). Newly eclosed flies were pretreated with 25 µg/mL KRG for 10 days. Ten flies per sample were weighted, dried for 48 h at 70°C, and then weighed again. The difference in weights divided by the initial weight was taken to be the water content. Fifteen replicates were used per treatment. Statistical probability was determined by using the *t*-test.

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