



Figure S8

Fig S8| ATFS-1 mediates mitochondrial stress-induced autophagy activity

- (A-D) Expression of *Phsp-60::GFP* is dramatically increased in *spg-7(RNAi)* (A,B) and *E04A4.5(RNAi)* (C,D) animals.
- (E-H) The elevated expression of *Phsp-60::GFP* in *spg-7(RNAi)* and *E04A4.5(RNAi)* animals is suppressed by *atfs-1(gk3094)*.
- (I) No SQST-1::GFP aggregates are formed in the intestine in *atfs-1(gk3094)* mutant animals.
- (J,K) *spg-7(RNAi)* suppresses the accumulation of SQST-1::GFP aggregates in *rpl-43(bp399)* mutants.
- (L) Loss of function *atfs-1* restores the accumulation of SQST-1::GFP aggregates in *spg-7(RNAi); rpl-43(bp399)* animals.
- (M,O) Accumulation of SQST-1::GFP aggregates in *rpl-43(bp399)* mutants is suppressed by *gfi-1(RNAi)* (M) and *E04A4.5(RNAi)* (O).
- (N,P) Loss of function of *atfs-1* causes accumulation of a large number of SQST-1::GFP aggregates in *rpl-43(bp399); gfi-1(RNAi)* (N) and *rpl-43(bp399); E04A4.5(RNAi)* (P) animals.
- (Q-V) No SQST-1::GFP aggregates are detected in *rpl-43(bp399); sma-3(wk20); atfs-1(RNAi)* (Q,R), *lin-35(RNAi); rpl-43(bp399); atfs-1(gk3094)* (S,T) and *rpl-43(bp399); daf-2(RNAi); atfs-1(gk3094)* (U,V) mutant animals.
- (W-Z) Loss of function of *daf-16* and *xbp-1* has no effect on *egl-46(n1126)* in suppression of the *rpl-43(bp399)* mutant phenotype.

(A2) Levels of endogenous LGG-1 are increased in *egl-46(RNAi)* and *gfi-1(RNAi)* mutant animals. 200 young adult animals for each genotype were collected for analysis.

(B2) The increase in *bec-1*, *epg-8*, *lgg-1* and *atg-7* mRNA levels in *egl-46(RNAi)*, *gfi-1(RNAi)* and *E04A4.2(RNAi)* mutant animals is dependent on *atfs-1*. **
P<0.01. 500 young adult animals were collected for analysis. Error bars indicate the s.d. of three experiments.

(A), (C), (E), (G), (J), (Q), (S), (U), (W) and (Y): DIC images of the animals shown in (B), (D), (F), (H), (K), (R), (T), (V), (X) and (Z), respectively. Scale bars: 100 μm (A-H); 20 μm (I-Z).