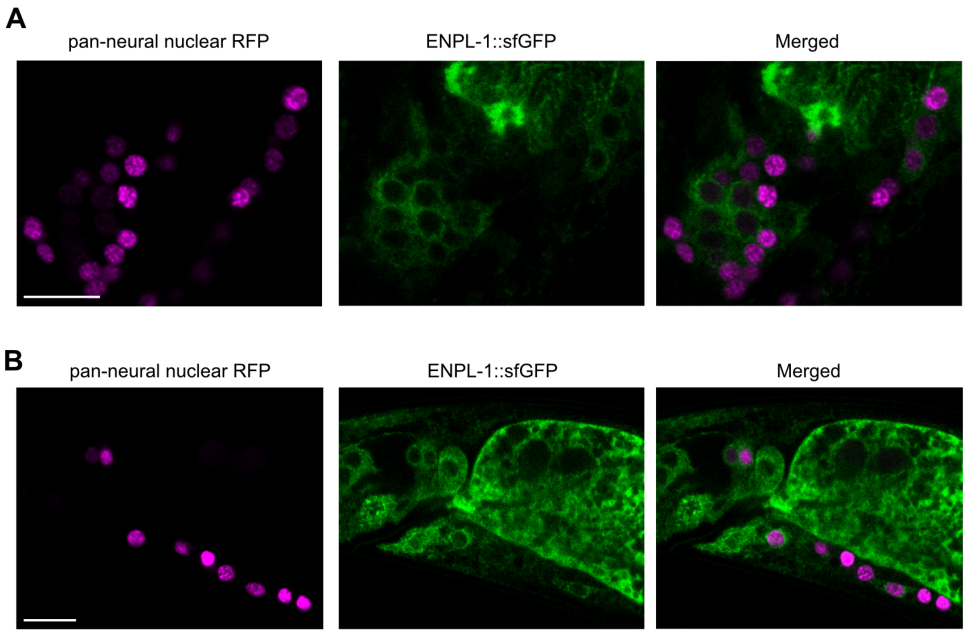

Fig. S1.

(A) Representative confocal images of adult animals co-expressing pan-neural nuclear RFP and ENPL-1::sfGFP in the lateral and ventral ganglia. Merged panel shows co-localization of both tagged proteins (n≥10). Scale bar: 10µm. (B) Representative confocal image of adult animals co-expressing pan-neural nuclear RFP and ENPL-1::sfGFP in ventral nerve cord. Merged panel shows co-localization of both tagged proteins (n≥10). Scale bar: 10µm.

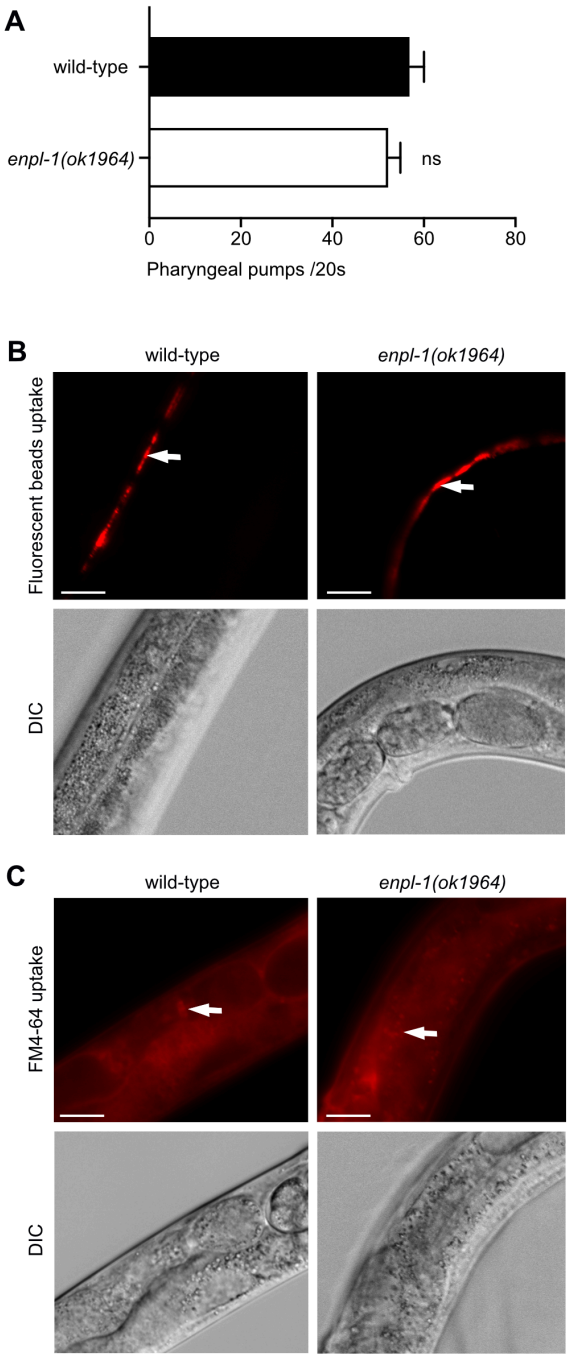

Fig. S2.

(A) Pharyngeal pumping rate in adult wild-type and *enpl-1(ok1964)* animals. Bars represent mean ± SD (n≥50). Statistical significance was determined by the two-tailed t-test. The experiment was performed in triplicate. (B) Fluorescence beads uptake of adult wild-type and *enpl-1(ok1964)* animals. White arrows indicate 0.2mm fluorescence beads in the intestinal lumen of treated animals (n=20). Scale bar: 25µm. (C) FM4-64 endocytosis of adult wild-type and *enpl-1(ok1964)* animals. White arrows indicate the FM4-64 uptake by the vesicles in the intestinal cells of treated animals (n=20). Scale bar: 25µm.

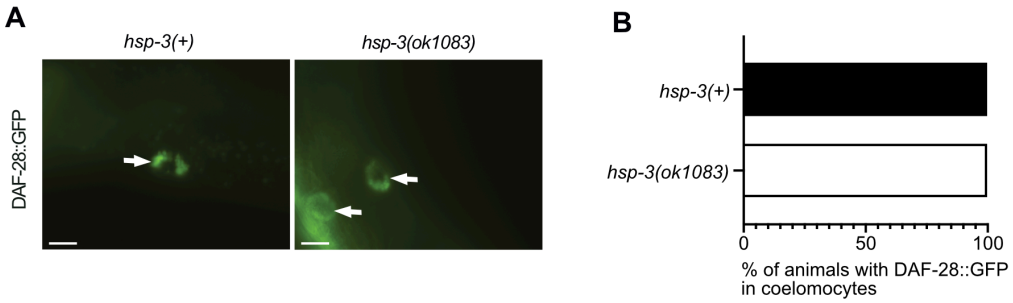

Fig. S3.

(A) Representative fluorescence images of adult *hsp-3(+)* animals and *hsp-3(ok1083)* mutants expressing DAF-28::GFP. White arrows indicate localization of DAF-28::GFP-positive coelomocytes (n≥15). Scale bar: 10µm. (B) Bars represent percentage of animals in which DAF-28::GFP is localized to coelomocytes (n≥15).

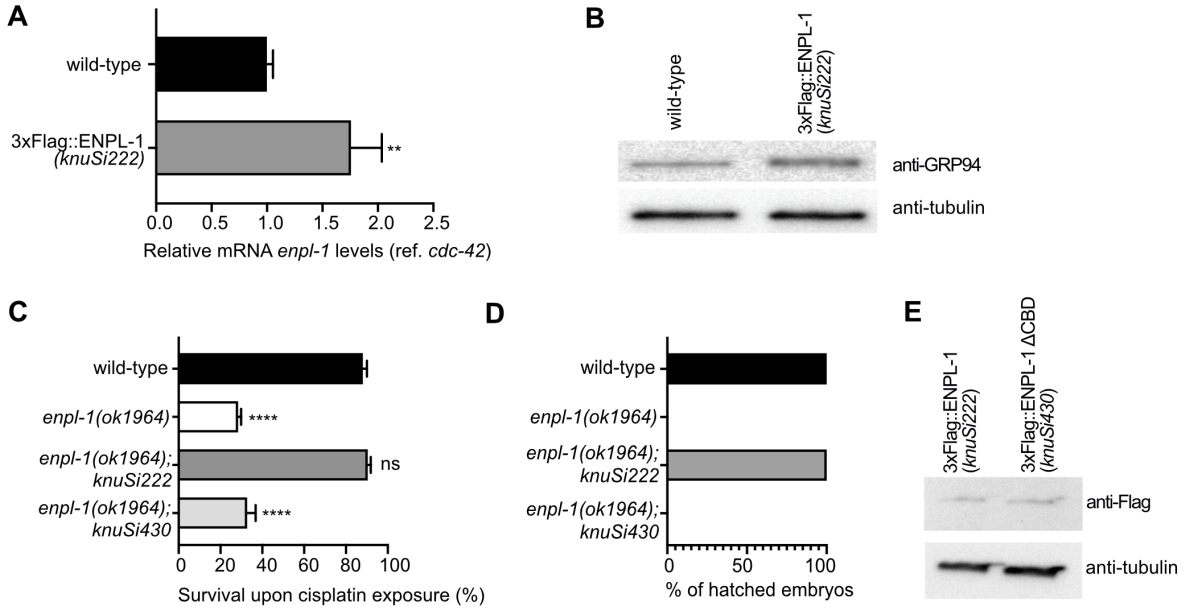

Fig. S4.

(A) Relative qPCR analysis of *enpl-1* expression in wild-type and 3xFlag::ENPl-1(*knuSi222*) animals. Statistical significance was determined by the two-tailed t-test (**p<0,01). Bars represent mean ± SD. *cdc42* was used as a normalizing control for the experiment. The experiment was performed in triplicate. (B) Western blot analysis of ENPL-1 in wild-type animals and 3xFlag::ENPL-1(*knuSi222*) expressing animals. Blots were probed with the anti-GRP94 antibody 9G10. Tubulin was used as a loading control. The experiment was performed in triplicate. (C) Quantification of survival of young adults after 24h exposure to 300µg/ml of cisplatin in wild-type animals, *enpl-1(ok1964)* mutants, *enpl-1(ok1964)* mutants carrying the *knuSi222* transgene (full-length ENPL-1) or *knuSi430* (CBD deleted ENPL-1). Statistical significance was determined by the two-tailed t-test (****p<0,0001). Bars represent mean ± SD (n≥50). The experiment was performed in triplicate. (D) Quantification of embryonic viability in wild-type animals, *enpl-1(ok1964)* mutants, *enpl-1(ok1964)* mutants carrying the *knuSi222* transgene (full-length ENPL-1) or *knuSi430* (CBD deleted ENPL-1). Bars represent percentage of hatched embryos (n≥50). (E) Western blot analysis of ENPL-1 in 3xFlag::ENPL-1(*knuSi222*) and 3xFlag::ENPL-1$^{\Delta CBD}$(*knuSi430*) expressing animals. Blots were probed with the anti-Flag antibody. Tubulin was used as a loading control. The experiment was performed in triplicate.

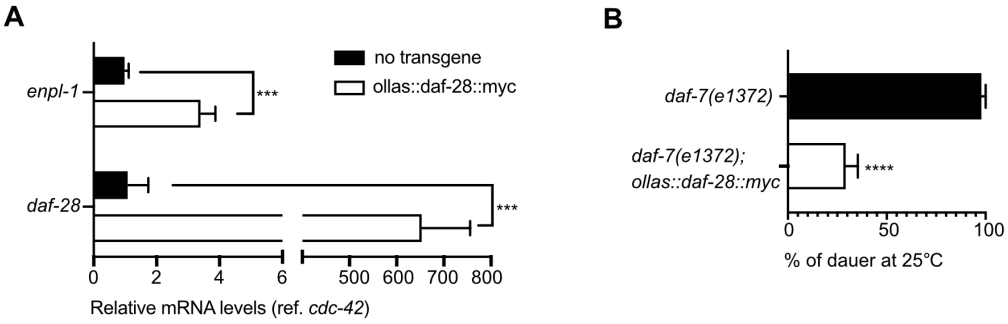

Fig. S5.

(A) Relative qPCR analysis of *enpl-1* and *daf-28* genes in non-transgenic animals and *rawEx11 (ollas::daf-28::myc)* bearing transgenic animals. Statistical significance was determined by the two-tailed t-test (***p<0,001). Bars represent mean ± SD. *cdc42* was used as a normalizing control for the experiment. The experiment was performed in triplicate. (B) *daf-7(e1372)* mutants with and without the transgene expressing *ollas::daf-28::myc* were analyzed for exit from the dauer state at 25°C after 96 hours. The transgene promoted dauer exit of *daf*-7 dauers raised at 25°C. Statistical significance was determined by the two-tailed t-test (****p<0,0001). Bars represent mean ± SD (n≥150). The experiment was performed in triplicate.