Supplementary information

Supplementary Figure 1

Flow cytometry of fixed Nile red stained worms reveals fat content per volume in mutants *glp-1 (e2141)*, *eat-2 (ad465)* and *daf-7 (e1372)* relative to wild type N2. The same staining protocol as for BODIPY 493/503 staining was used. Nile red fluorescence as function of extinction is a proxy for fat content per volume of *eat-2*, *daf-7*, *glp-1* (25 °C) relative to wild type.

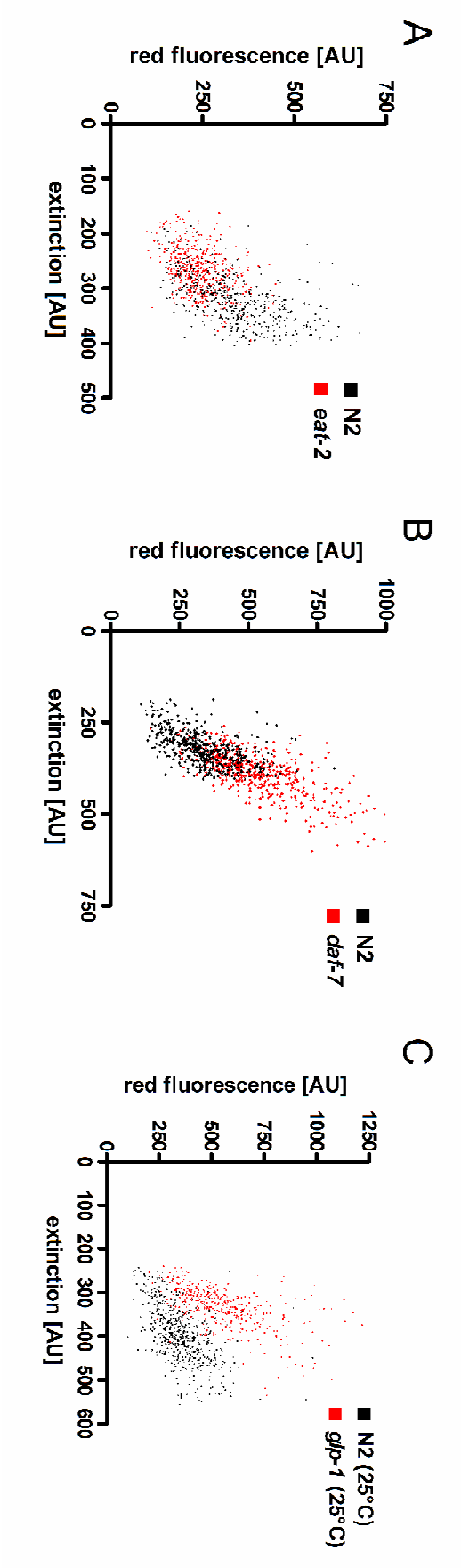
Supplementary Figure 2

Conventional microscopy shows: (A) Vital staining of worms with BODIPY 493/503 with an incubation time of 20 min stains lipid droplets, as proven by co-localisation with CARS signals (Fig.10 C), distinct from Lysotracker Red positive, autofluorescent LROs. (B) However, long term feeding of the worms with BODIPY 493/503 on NGM plates over 18 h leads to accumulation of the dye in the autofluorescent LROs.

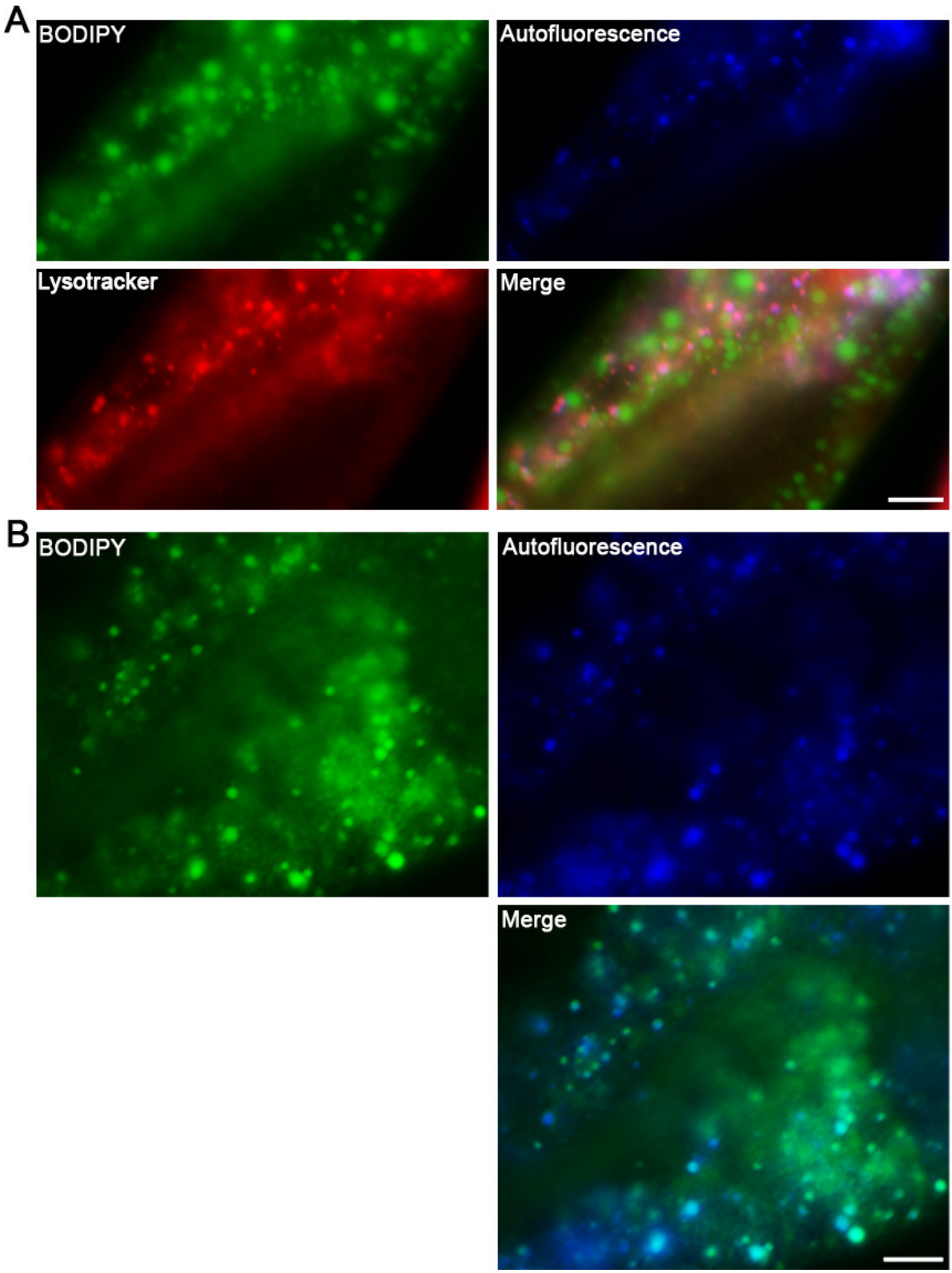
Supplementary Figure 3

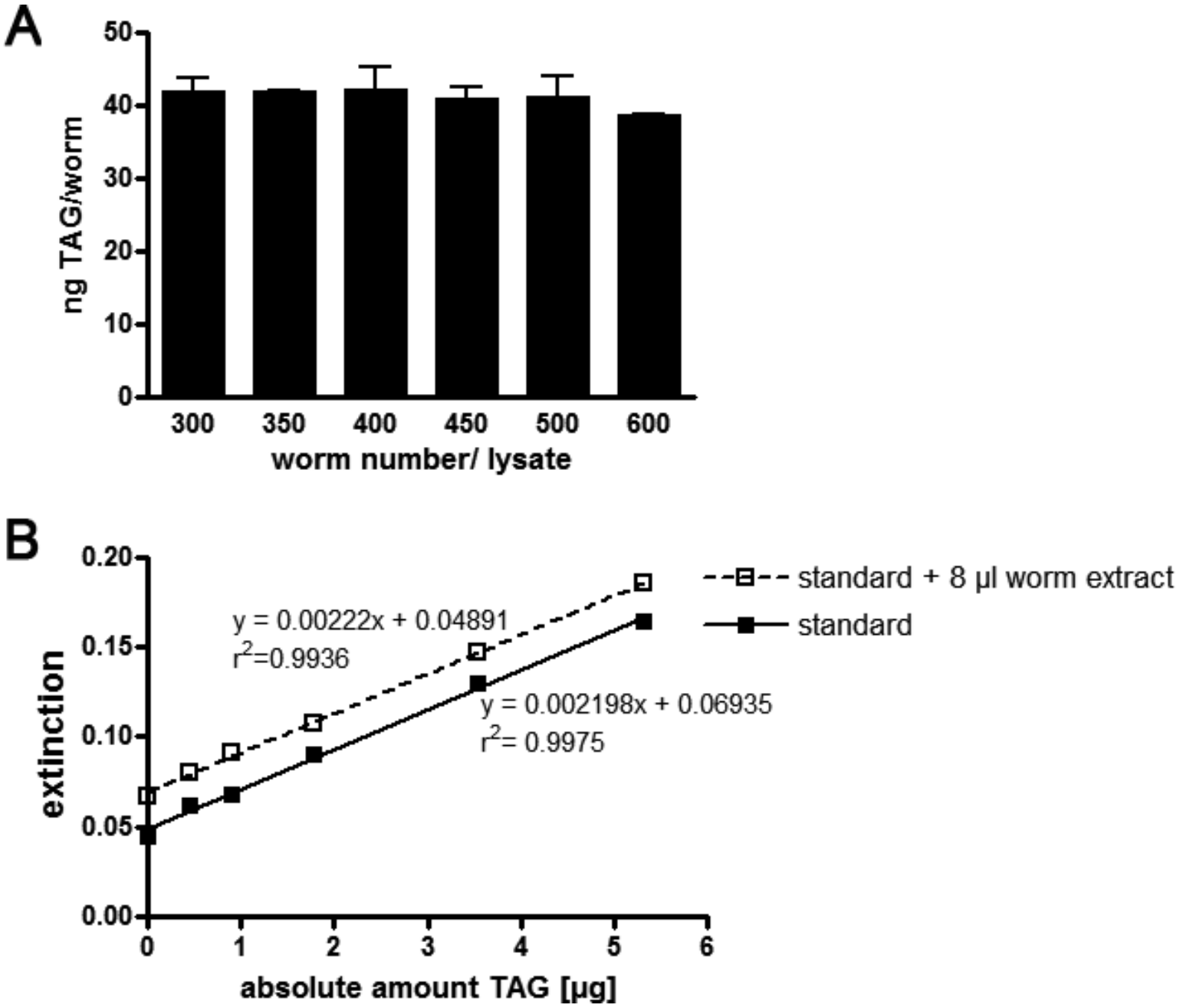
Data are shown that that the triacylglycerol assay is suitable for the determination of TAGs in *C. elegans*. (A) Triglyceride measurements using worm extracts with the assigned numbers of worms/70 µl lysis buffer revealed similar triglyceride contents per worm (ng/ worm) independent of the worm number. (B) The triolein standard curve -■- if spiked with worm homogenate --□-- shows a nearly identical slope, analyzed by linear regression. (A,B) 8 µl worm extract were used for each reaction. Assays were carried out in duplicates. Data are presented as mean ± SD. These results demonstrate, that the TAG assay is not interfered by any components in the worm extract, at least in this range.

Suppl. Figure 1



Suppl. Figure 2





Suppl. Figure 3