

Supplementary Figure Legends

Supplementary Figure 1. Gpx3 is decreased in plasma of mice subjected to the AOM/DSS protocol. Western blot of Gpx3 protein expression in plasma from WT water treated and AOM/DSS treated mice (top). Quantification is presented as fold change intensity and the graph (bottom) displays plasma Gpx3 protein in the mice shown in the western blot above. $P=0.046$.

Supplementary Figure 2. Gpx3 expression is not increased in tumor compared to normal tissue. Normal and tumor tissue mRNA expression of *Gpx3* in WT normal adjacent and WT tumor tissue post-AOM/DSS. Error bars represent standard error of four mice performed in triplicate. $P=n.s.$

Supplementary Figure 3. Gpx3 expression is downregulated in human colon cancer samples. A) *GPX3* expression is significantly downregulated in adenomas and colorectal cancer patients compared with normal adjacent colon tissues. $^{***}P<0.01$ for each stage relative to normal. B) *GPX3* expression in matched human normal and tumor samples. Error bars represent standard deviation of samples performed in duplicate. C) Western blot of *GPX3* protein expression in matched human normal and tumor samples. Quantification is presented as fold change intensity controlled for β -actin.

Supplementary Figure 4. Absence of Gpx3 does not modify weight change in response to AOM/DSS exposure. Percentage weight loss at day 0 and day 7 of each cycle throughout the course of the AOM/DSS protocol. $P=n.s.$

Supplementary Figure 5. Intratumoral apoptosis is not altered in *Gpx3*^{-/-} mice. TUNEL immunohistochemistry was performed to identify apoptotic cells in WT (N=13)

and *Gpx3*^{-/-} (N=14) tumors. TUNEL⁺ cells were counted within each high-powered field (HPF) and then averaged for each mouse. *P*=n.s.

Supplementary Figure 6. *Gpx3* expression is highest in Caco2 cells. A) *Gpx3* expression was analyzed within a cohort of colorectal cancer cell lines. The graph demonstrates fold-change of triplicate samples after analysis by the $\Delta\Delta$ Ct method. B) Western blot for *Gpx3* expression in Caco2 and HCT116 cells.