**Figure Legend**

**Figure 1.** **Trx2 and Trx1 levels in young Tg(*TXN2*)+/0 x Trx1KO mice and their WT littermates.** Trx2 and Trx1 protein levels were determined by Western blot in various tissues of 4 to 6 month old Tg(*TXN2*)+/0 x Trx1KO and WT mice. Trx2 level was significantly (1.5-3 fold) higher in the tissues (liver, kidney, and brain) of 4 to 6 month old Tg(*TXN2*)+/0 x Trx1KO (closed bars) and WT mice (open bars) (Figure 1a: left; \**p* < 0.05). Trx1 was significantly lower (approximately 50% less) in the tissues (liver, kidney, and brain) of Tg(*TXN2*)+/0 x Trx1KO (closed bars) and WT littermates (open bars) (Figure 1b: right; \**p* < 0.05). The data are the mean ± SEM from three to five mice.

**Figure 2. Levels of** **total glutathione in Tg(*TXN2*)+/0 x Trx1KO and WT mice**. Total glutathione levels were measured in the liver and kidney of young 4 to 6 month Tg(*TXN2*)+/0 x Trx1KO mice (closed bar) and WT mice (open bar). No significant difference was observed in total glutathione levels in Tg(*TXN2*)+/0 x Trx1KO compared to WT mice. The data are the mean ± SEM from three to five mice.

**Figure 3. Cu/ZnSOD, MnSOD, GPx, and catalase activity in Tg(*TXN2*)+/0 x Trx1KO and WT mice.** The activities of Cu/ZnSOD (Figure 3a: left, top), MnSOD (Figure 3b: right, top), GPx (Figure 3c: left, bottom), and catalase (Figure 3d: right, bottom) were measured in the liver and kidney of 4 to 6 month old Tg(*TXN2*)+/0 x Trx1KO (closed bar) and WT (open bar) mice. Cu/ZnSOD, MnSOD, GPx, and catalase activities were similar between Tg(*TXN2*)+/0 x Trx1KO and WT mice. Data are the mean ± SEM of three mice.

**Figure 4.** **Survival curves of Tg(*TXN2*)+/0 x Trx1KOand WT mice.** The survival curves of Tg(*TXN2*)+/0 x Trx1KO (closed squares) and WT (open triangles) mice are presented. The cohort consists of 35 Tg(*TXN2*)+/0 x Trx1KO mice and 35 WT male mice. Although Tg(*TXN2*)+/0 x Trx1KO mice slightly extended the lifespan in the early stage of life (30.7% extension at 75th percentile), the survival curves were not significantly different between Tg(*TXN2*)+/0 x Trx1KO and WT mice.

**Figure 5. Tumor burden, severity of lymphoma and glomerulonephritis, and disease burden in Tg(*TXN2*)+/0 x Trx1KO and WT mice.**

Tumor burden (the number of different types of tumors) (Figure 5a: top, left), the severity of lymphoma (Figure 5b: top, right), severity of glomerulonephritis (Figure 5c: bottom, left), and disease burden (Figure 5d: bottom, right) in Tg(*TXN2*)+/0 x Trx1KO (closed bar) and WT(open bar) mice were compared. The tumor burden and severity of lymphoma for the Tg(*TXN2*)+/0 x Trx1KO mice were similar to WT mice (*p* > 0.05). Severity of glomerulonephritis was slightly higher in Tg(*TXN2*)+/0 x Trx1KO than WT mice, however, this difference was not statistically significant (*p* > 0.05). The disease burden was slightly less in Tg(*TXN2*)+/0 x Trx1KO (3.67) than WT (4.15) mice, which also did not reach statistical significance.