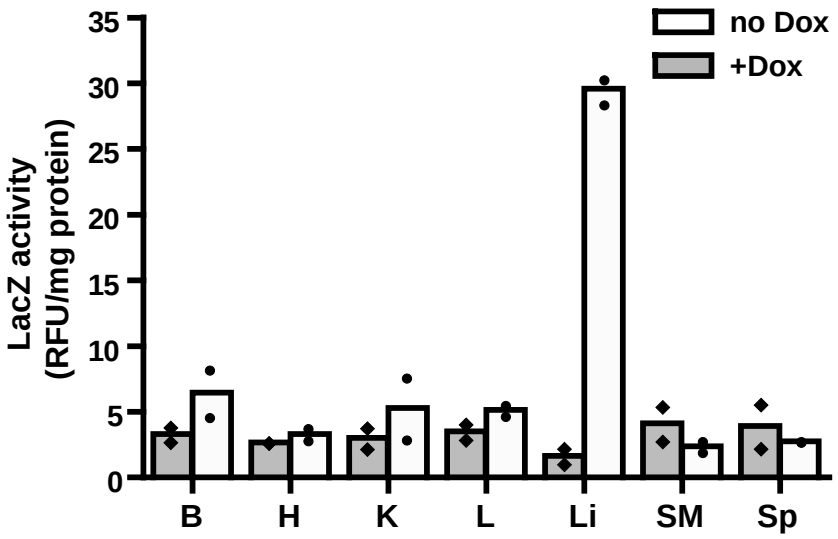
Supplemental Table 1. Histopathologic analysis of livers after partial hepatectomy

Morphology	No of cases/total[1] (% total)	Genotype[2]	No of cases	Gender	No of cases
Good histopathological outcome (absence of necrosis or focal necrosis in less than 25% of areas examined)	34/61 (55.7%)	single Tg	16	male	11
				female	5
		double Tg	18	male	5
				female	13
Bad histopathological outcome (severe necrosis in more than 50% of areas examined with marked hepatocyte vacuolation)	27/61 (44.3%)	single Tg	13	male	5
				female	8
		double Tg	14	male	8
				female	6

[1]A total of 61 mice went through partial hepatectomy procedure.

[2]Genotype designations: Single Tg, *Sod2*-TRE-*LacZ* single transgenic mice; double Tg, *Sod2*-TRE-*LacZ*/LAP-tTA double transgenic mice.

Supplemental Figure 1

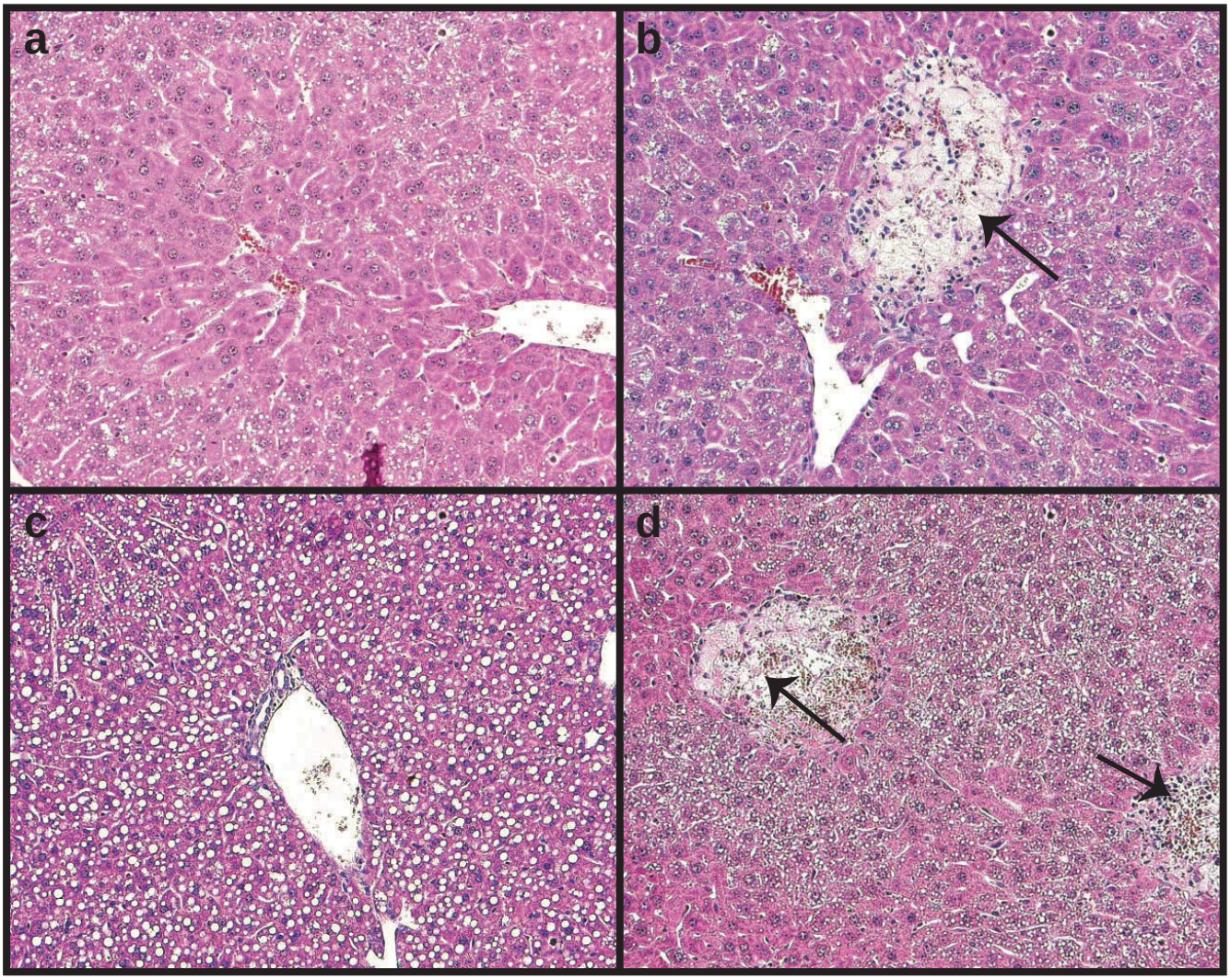


Supplemental Figure 1 Liver-specific expression of LacZ and MnSOD from *Sod2*-TRE-*LacZ*/LAP-tTA double transgenic mice. LacZ expression in various tissues from *Sod2*-TRE-*Sod2*/LAP-tTA (Tet-Off) double transgenic mice treated with (+Dox) or without (no Dox) Dox-supplemented mouse chow is shown. B, brain; H, heart, K, kidney; L, lung; Li, liver; SM, skeletal muscle; Sp, spleen. Columns represent data from the average of two mice each; the individual values making up those averages are shown as black diamonds. Relative fluorescence unit (RFU) per mg total protein is shown as a function of LacZ activity.

LacZ (β-galactosidase) staining and activity measurement

To stain for LacZ activity in the liver and other tissues, organs were retrieved from deeply anesthetized double transgenic mice, sliced at 1 mm thickness with a tissue slicer, and fixed in 4% paraformaldehyde in PBS (pH 7.2) for 1 hour at 4^{O}C. After washing 3 times in PBS, fixed tissues were incubated in the staining solution (5 mM $K_3Fe(CN)_6$, 5 mM $K_4Fe(CN)_6$, 2 mM $MgCl_2$, 1 mg/ml X-gal in PBS, pH 7.2) at 37^{O}C overnight. Stained tissues were post-fixed in 10% neutral buffered formalin and stored at 4^{O}C.
To measure β-galactosidase activity in tissue lysates, tissues were diced into small pieces, homogenized on ice in 50 mM phosphate buffer (pH 7.8), sonicated (3x 5 sec each with a 5 sec pause on ice in between), and freeze/thawed three times in liquid nitrogen. Tissue lysates were then centrifuged at 10,000 g for 5 minutes at 4^{O}C, and the supernatants aliquoted and stored at -80^{O}C. β-galactosidase activities in tissue lysates were measured using a β-galactosidase enzyme assay system (Promega, USA) and were standardized over protein concentrations measured by Bradford method (Bio-Rad, USA).

Supplemental Figure 2



Supplemental Figure 2 Representative histologic findings in mouse livers after partial hepatectomy showing a: healthy outcome with intact hepatocytes and normal lobular structure, b: a focal necrotic area (arrow), c: accumulation of large lipid vacuoles in hepatocytes, d: foci of necrosis (arrows) and hepatocyte microvacuolation. H & E staining ; orignial images taken at 200x magnification.