Heme oxygenase-1 deficiency alters erythroblastic island formation, steady-state erythropoiesis and red blood cell lifespan in mice

BALB/c 8-14 week-old Heme oxygenase-1 deficient

Steady-state erythropoiesis alteration in bone marrow
- abnormal adhesion molecule expression in macrophages and erythroid cells
- erythroblastic island formation

Red blood cell changes
- ↓ red blood cell size
- ↓ hemoglobin content
- ↑ circulating red blood cells

Circulating red blood cells oxidative stress increase
- ↑ lifespan of oxidatively stressed erythrocytes
- ↓ frequency of macrophages expressing TIM4 in bone marrow, spleen & liver
- ameliorated microcytic anemia

Fraser et al., Haematologica, 2015