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Glutathione peroxidase 4 and vitamin E control reticulocyte maturation, stress erythropoiesis and iron homeostasis

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Contributions: Transplantation experiments were performed by NV. Blood parameters of GPX4fl/fl;CreERT2 mice and controls were analyzed by LH, MS, CL, CKR, BR, and GWB using the Sysmex XT-2000iV apparatus which could be purchased through a grant to MHA. Blood parameters, bone marrow blood island macrophages and spleen red pulp macrophages of GPX4fl/fl;LysM-Cre and control mice were analyzed by KO and MK. Tissue specimens were prepared by PH, LH, MS, CL, CKR, and GWB. PCR, quantitative RT-PCR and western blot analyses were performed by SA. FACS analysis of blood, BM, and spleen cells was done by PH, TS, JM, CL, and CKR. Histology was performed and evaluated by SA, DJ and FN. Ultrastructural analysis was performed by MA and AW. Parameters of iron metabolism were determined by SA, ARS, KM and TG (ERFE). NV, CB, SA, MUM, TS, MC, and GWB designed the concept and evaluated data. Figures were prepared by SA, NV, MK, MC, and GWB. GWB wrote the manuscript with significant contributions from SA, NV, MC, TG, MK, and MUM.