



**Supplementary figure 1. Quantification of the effect of  $\alpha$ -LA on iron accumulation in three PKAN fibroblast cell lines** (a) Iron accumulation quantification in control and P1 fibroblasts treated with increasing doses of lipoic acid. (b) Quantification of iron levels in control and P2 fibroblasts treated with increasing doses of lipoic acid (c) Iron levels quantification of control and P3 fibroblasts treated with increasing doses of  $\alpha$ -LA. Data represent the mean $\pm$ SD of three separate experiments. \*\* $p$ <0.01, \*\*\* $p$ <0.005 between PKAN patients and controls. # $p$ <0.05, ## $p$ <0.01 between untreated and treated fibroblasts. A.U., arbitrary units.