Supporting Information

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SI Materials and Methods

The 129S1/SvImJ (agouti, Rpe65 Leu450) mice were purchased from The Jackson Laboratory. Albino *Abca4*$^{-/-}$ (Rpe65 Leu450) mice were bred in house (1). The mice were raised under cyclic light (12 h/12 h). C57BL/6J mice carrying a knockout of ceruloplasmin (*Cp*$^{-/-}$) and either a knockout of hephaestin (*Cp*$^{-/-}$; *Heph*$^{-/-}$) or the sex-linked anemia mutation (*Cp*$^{-/-}$; *Heph*$^{sla/sla}$) that reduces protein levels to 10% of normal, were also studied (38, 39). These mice were also heterozygous for a mutation in amyloid precursor protein (*APP*$^{+/-}$) and all were homozygous for Rpe65 Met450. Mice were treated with deferiprone (DFP) (Ferriprox) (Barr Pharma, pharmaceutical grade) delivered in drinking water (1 mg/mL) from age 2 mo to age 4 or 6 mo. Animal protocols were approved by the Institutional Animal Care and Use Committee of Columbia University.

1. Kim SR, et al. (2004) Rpe65 Leu450Met variant is associated with reduced levels of the retinal pigment epithelium lipofuscin fluorophores A2E and iso-A2E. *Proc Natl Acad Sci USA* 101:11668–11672.

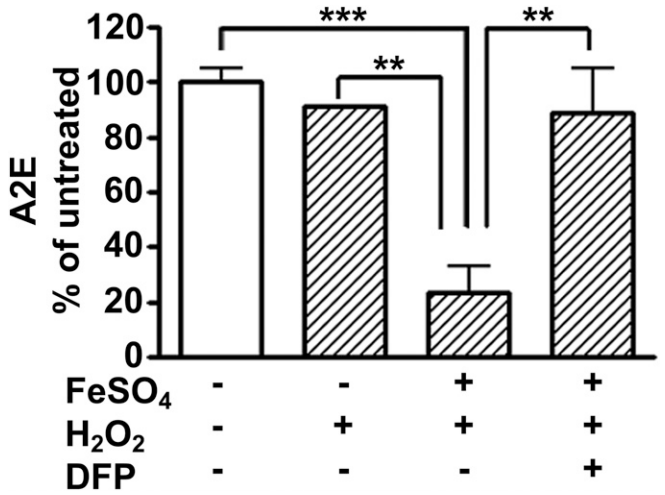

Fig. S1. Effects of DFP and Fenton reaction molecules: cell-free assays. Under the oxidizing conditions of $FeSO_4$ and H_2O_2 (Fenton reaction) with DFP, the retinaldehyde-adduct A2E degrades as evidenced by A2E loss. A2E (9) (50 μM in distilled water with 0.25% DMSO) was incubated with $FeSO_4$ (100–200 μM), H_2O_2 (100–200 μM), and DFP (100–200 μM) for 0.5–24 h at 37 °C and peak areas were quantified by HPLC as described in *Methods*, and by UPLC (73). Values are means ± SEM, two to four independent samples per group. $^{**}P < 0.01$ and $^{***}P < 0.001$, one-way ANOVA and Tukey's multiple comparison test.