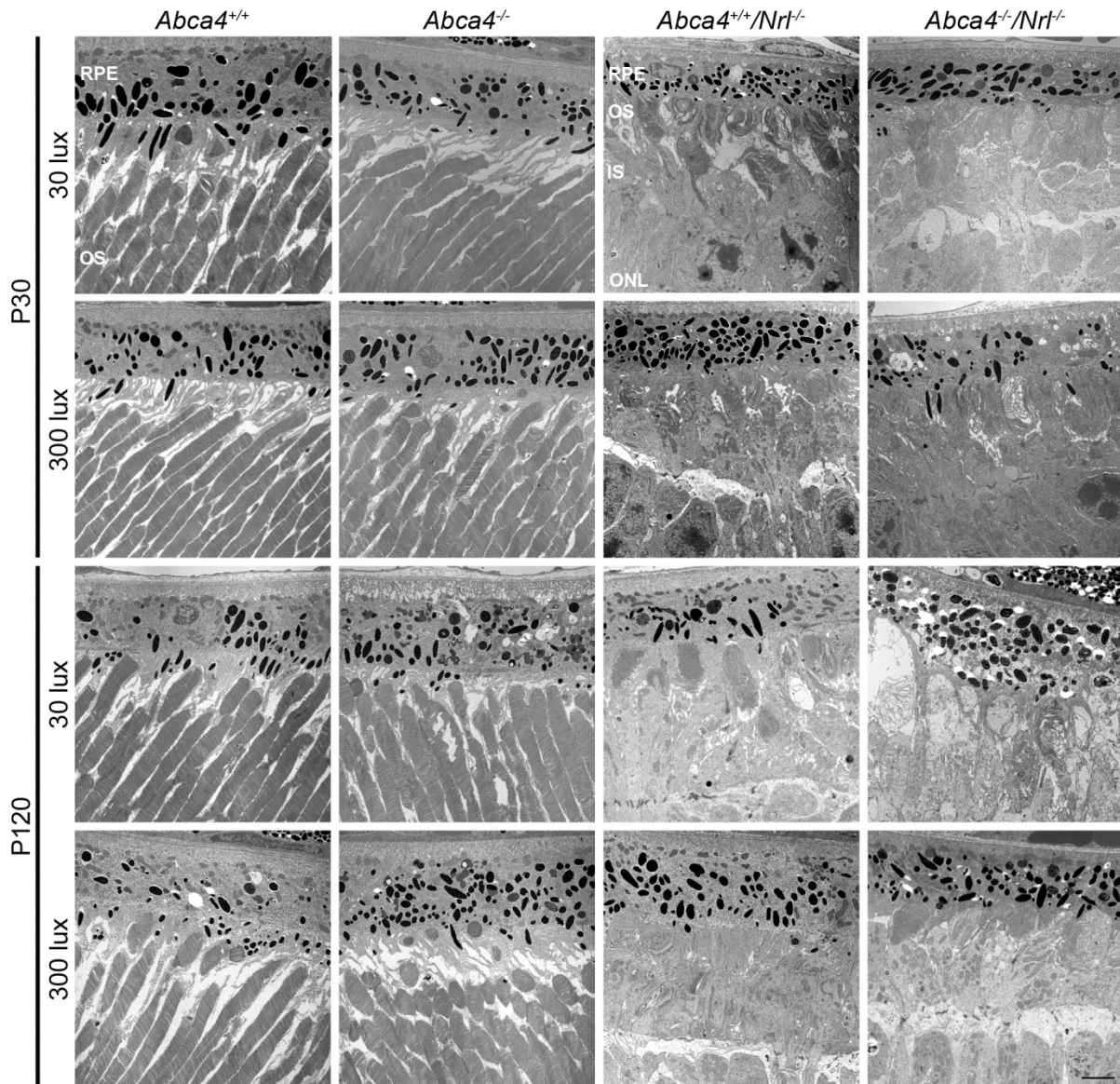
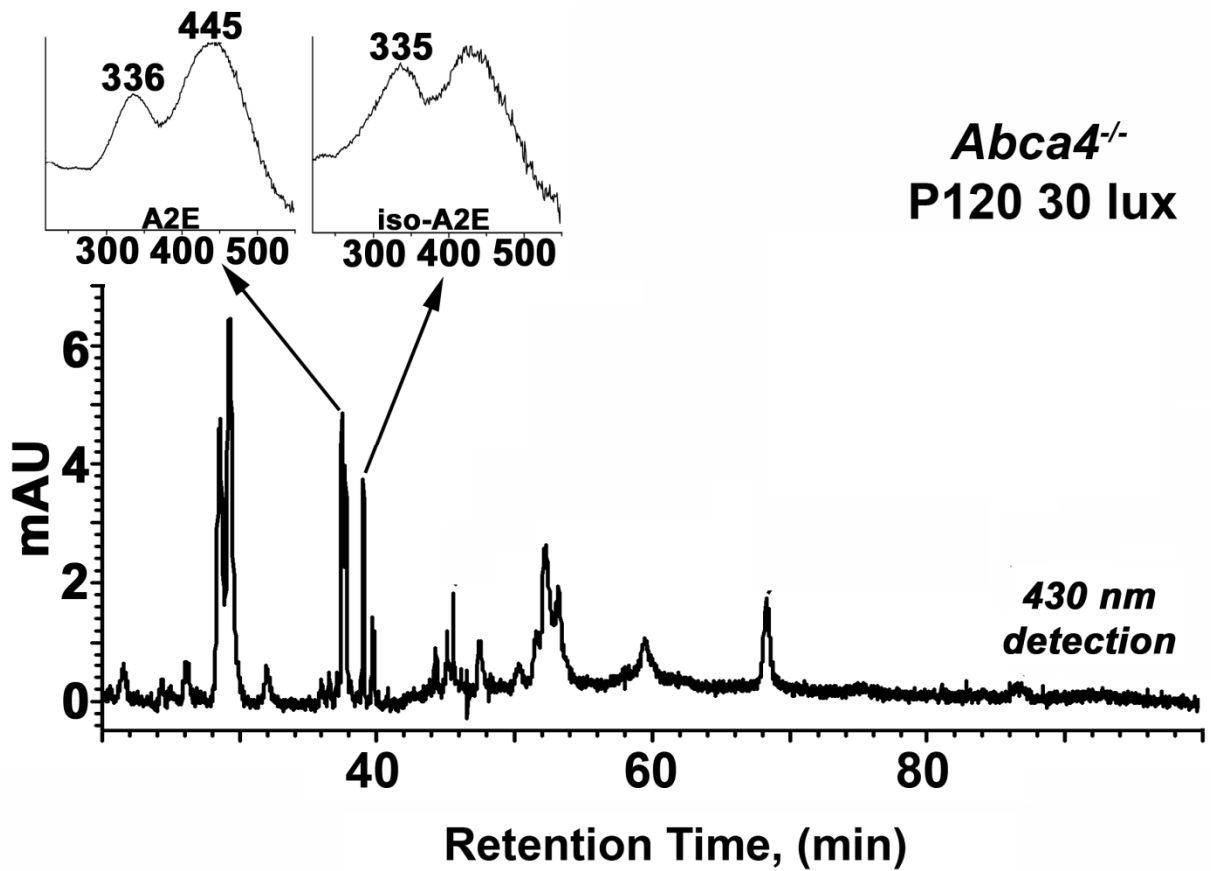


Supplementary Information



Supplementary Fig. 1 Outer retinal ultrastructure is not affected by ABCA4 deficiency. Shown are representative electron micrographs from eyes collected at P30 (top) or P120 (bottom). No gross defects are seen in RPE or OS ultrastructure at any age, light exposure or genotype. In the WT background, rod OSs remain properly stacked and in contact with the RPE. In the *nrl*^{-/-} background, OSs are sparser in the

region adjacent to the RPE and are not always vertically oriented (normal) but are not grossly affected by loss of ABCA4. Scale bar 2 μm . RPE: retinal pigment epithelium, OS: outer segment, IS: inner segment, ONL: outer nuclear layer.



Supplementary Fig. 2 A2E Detection. Representative HPLC chromatogram generated from *Abca4*^{-/-} eyes at P120.