**Figure S1. Composition of membrane bound Nox2.** Assembled Nox2 consists of membrane anchoring subunit p22phox, cytosolic subunits p40phox, p47phox and p67phox and Rac. Electron transporting machinery lies in the Nox2 subunit of NADPH oxidase where NADPH donates an electron (e⁻) to reduce oxygen (O₂) into superoxide (O₂⁻).
Figure S2. Genotyping of Nox2 KO and wildtypes (WT). An image of PCR products obtained from the DNA of Nox2 KO and WT mice run on 1% agarose gel. Genotyping was confirmed by performing 2 separate PCRs in 3 samples of DNA with primers specific for Nox2 KO and WT respectively. Lane 1: size marker; lanes 2 to 4: WT; lanes 5 to 7: Nox2 KO; lanes 8: negative control; lanes 9 to 11: WT; lanes 12 to 14: Nox2 KO; lane 15: negative control. Bands of the expected size were visible in WT (240 bp; lanes 2 to 4) but not Nox2 KO samples (lanes 5 to 7) when the reaction was performed with WT specific primers. Similarly, bands of the expected sizes were visible in Nox2 KO (195 bp; lanes 12 to 14) but not in WT (lanes 9 to 11) samples when the reaction was performed with Nox2 KO specific primers.
Figure S3. **Representative images of mouse eyes.** Haematoxylin-eosin stained frozen section of eyes from wildtype and Nox2 KO subjected to normoxia and OIR. Neovascular tufts protruding to the vitreous (V) are identified in arrows in wildtype mice with OIR. GCL, ganglion cell layer.
Figure S4. Representative retinal flatmounts obtained from a wildtype mouse at P17 and from Nox2 KO and wildtype mice at P8. A to D: Retinal vaso-obliteration followed one day of hyperoxic exposure. Retinal vessels were identified by isolectin B4 labelling. Avascular area is shaded in white. There was no difference in the extent of vaso-obliteration between Nox2 KO and WT mice with OIR at P8; P=0.70; n=14 - 19 mice/group.