SUPPLEMENTAL RESEARCH DESIGN AND METHODS

Measurement of bone marrow EPC by FACS. Bone marrow cells were collected from mouse femur and tibia by flushing the bone cavity with 1 ml PBS. Bone marrow mononuclear cells (BM-MNC) were isolated using the red blood cell lysis buffer (Biolegend, San Diego, CA, USA). EPC were detected and quantified using the same method as described in MATERIALS AND METHODS.

Identification of primary MBEC. The purity of primary MBEC was identified by immunostaining using a goat anti-mouse CD31 antibody (R&D System, Minneapolis, MN) and a rabbit anti-mouse VEGFR2 antibody (Cell Signaling Technology, Danvers, MA). Alexa Fluor® 488-AffiniPure Donkey Anti-Goat IgG and Alexa Fluor® 647-AffiniPure Donkey Anti-Rabbit IgG (Jackson ImmunoResearch Laboratory, Inc., West Grove, PA) were used as the secondary antibodies. The nuclei were counterstained with DAPI.
SUPPLEMENTAL FIGURE LEGENDS

**Suppl. Fig. 1.** FACS analysis of EPC numbers in bone marrow mononuclear cells (BM-MNC) and white blood cells (WB-MNC). A, B: Quantification of CD34+/VEGFR2+ cells (A) and c-kit+/Tie-2+ cells (B) in the bone marrow of normal mice, OIR mice and OIR mice treated with FA at P17. CD34+/VEGFR2+ cells and c-kit+/Tie-2+ cells were quantified and expressed as % of total BM-MNC. C, D: Normal mice were treated with FA (10 mg/kg/day) intraperitoneally from P12 to P17. CD34+/VEGFR2+ cells (C) and c-kit+/Tie-2+ cells (D) were quantified in the peripheral blood and expressed as % of total WB-MNC. NS: not significant.

**Suppl. Fig. 2.** Verification of primary mouse brain endothelial cells. Two endothelial cell markers, VEGFR2 (red) and CD31 (green), were immunostained in primary MBEC. The nuclei were counterstained with DAPI (blue). Scale bar, 40 µm.

**Suppl. Fig. 3.** Retinal fluorescein angiographs of WT and PPARα−/− mice at P17 under normal condition. There is no apparent difference in retinal vasculature in the retina between WT and PPARα−/− (KO) mice. Scale bar, 100 µm.

**Suppl. Fig. 4.** Expression of GFP in retinal endothelial cell. Ad-GFP (2.5×10⁷/mouse) was injected intraperitoneally at P12 in OIR mice, and mice were sacrificed at P17. The retinas were dissected and digested with trypsin, and the vasculature was immunostained with anti-CD31 antibody and Cy3-anti-goat secondary antibody. Images show the co-localization of GFP (green) and CD31 (red). The nuclei were counterstained with DAPI (blue). Scale bar, 10 µm.
Suppl. Fig. 5. OIR and FA treatment affect the serum EPO levels. The OIR mice were injected with FA (i.p., 10 mg/kg/day) from P12 to P17. Serum was collected from OIR and normal control mice at P17. Serum EPO levels in normal mice (N), OIR mice injected with vehicle (OIR), and OIR mice injected with FA (OIR+FA) were measured by ELISA. EPO levels were significantly elevated in the OIR mice, and FA attenuated the increases of EPO in OIR. Values represent mean ± SEM (n = 6). **P < 0.01.
Suppl. Fig. 3
Suppl. Fig. 5