Supplementary Fig 1

**FDP-lysine**

**Supplementary Fig 1.** *Left panels,* Representative images showing FDP-lysine immunoreactivity (green fluorescence) in transverse cryosections from non-diabetic and diabetic rats of 3-months' disease duration. Nuclei were counterstained with TO-PRO nuclear dye (blue fluorescence). In non-diabetic rats, immunolabelling was observed in cell nuclei within the ganglion cell and inner nuclear layers (GCL, INL). In diabetic animals, a marked increase in FDP-lysine immunoreactivity was observed in the inner retina. In particular, strong immunolabelling became apparent in Müller glia end feet at the inner limiting membrane (ILM) and within Müller glia radial processes extending from the ILM to the INL. Scale bars indicate 20 μm. *Right panel,* Summary data quantifying FDP-lysine immunoreactivity in the inner retina (ILM-INL) from 6 non-diabetic and 6 diabetic animals. *** indicates P<0.001 vs. non-diabetic.

Supplementary Fig 2

**Supplementary Fig 2.** Agarose gel electrophoresis of RT-PCR products of ALDH and AKR enzymes from liver (*top panel*), lens (*middle panel*) and cornea (*bottom panel*). Multiple bands were observed for some ALDH and AKR isoforms suggesting the presence of alternatively spliced variants.
Supplementary Fig 3. Immunocytochemical characterisation of primary cultured mouse Müller glia. Cultured Müller glia displayed positive immunoreactivity for several Müller glia markers including Kir4.1, glutamine synthetase, vimentin, CRALBP and GFAP. No expression of other retinal cell markers was detected including eNOS (vascular endothelial cells), IBA-1 (microglial cells), PGP9.5 (neuronal cells), NG2 (pericytes) and FGFR4 (fibroblasts). Secondary antibody control (2nd control) experiments were negative and nuclear and cytoplasmic expression of ALDH1a1 was observed. In all images, cell nuclei were labelled with DAPI (blue channel). Scale bars indicate 50 μm.