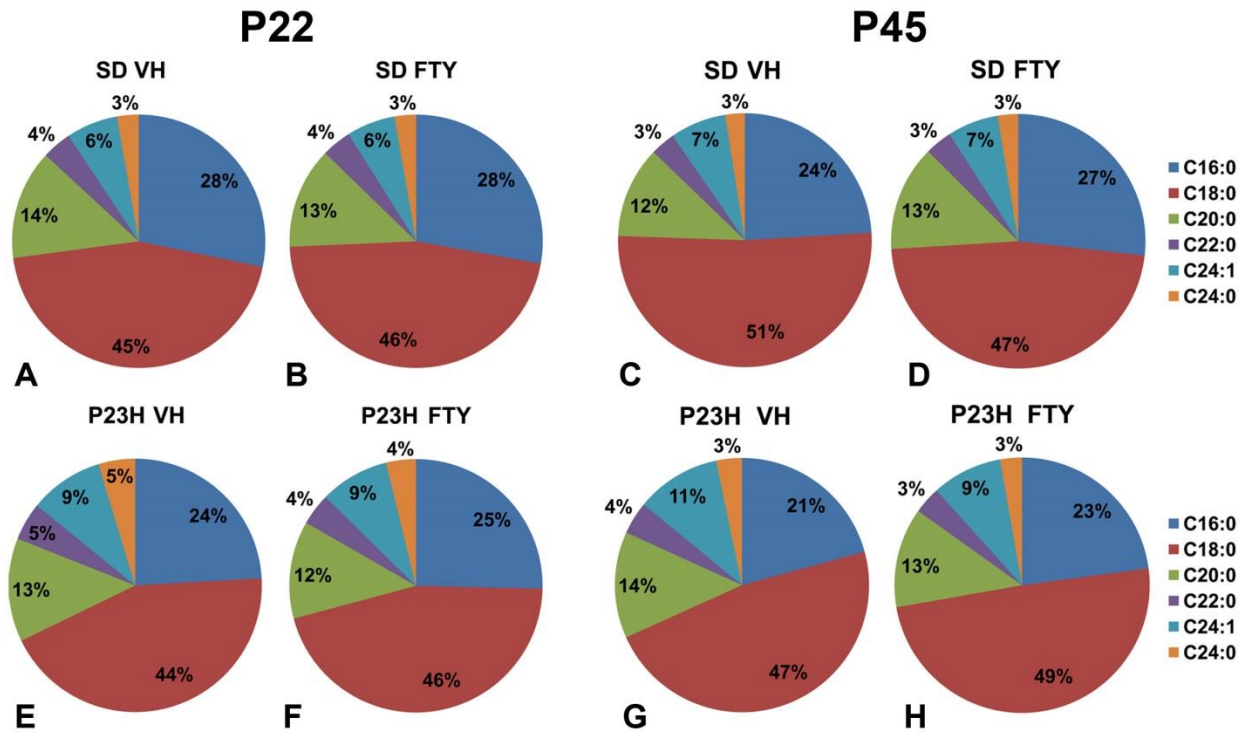
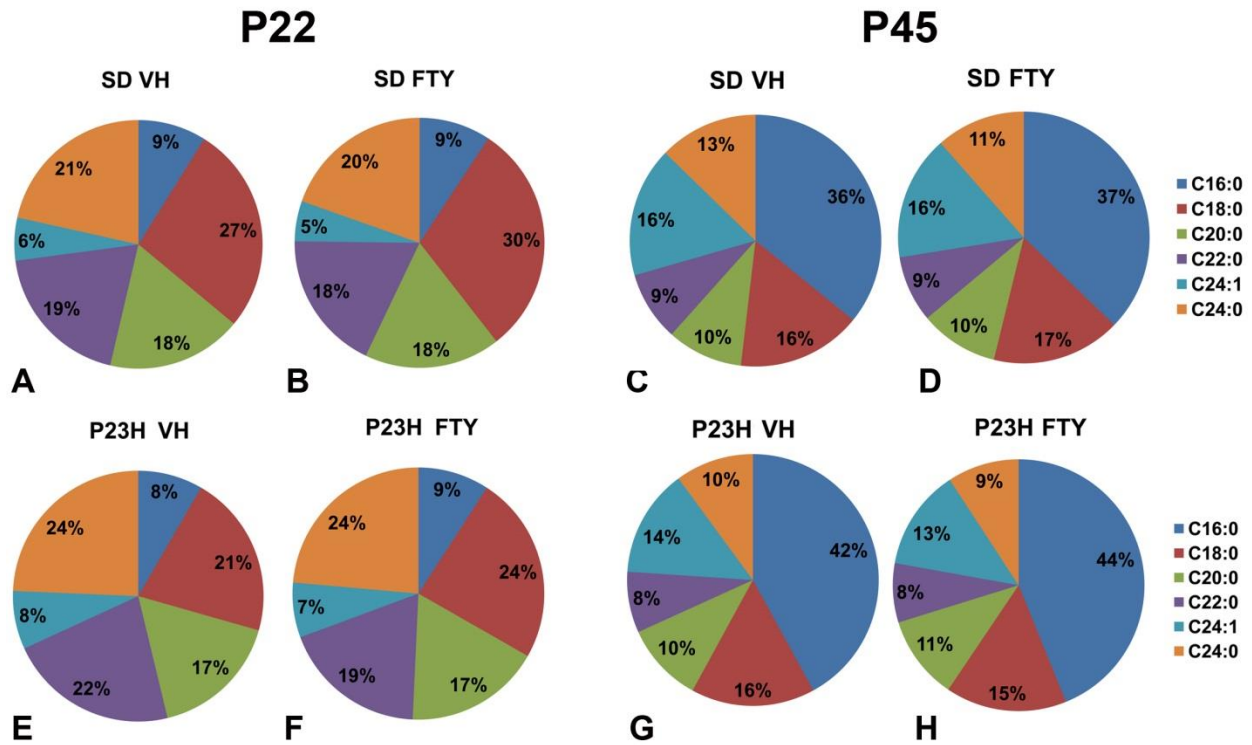


Supplement Figure 1. Compositional changes in ceramides.



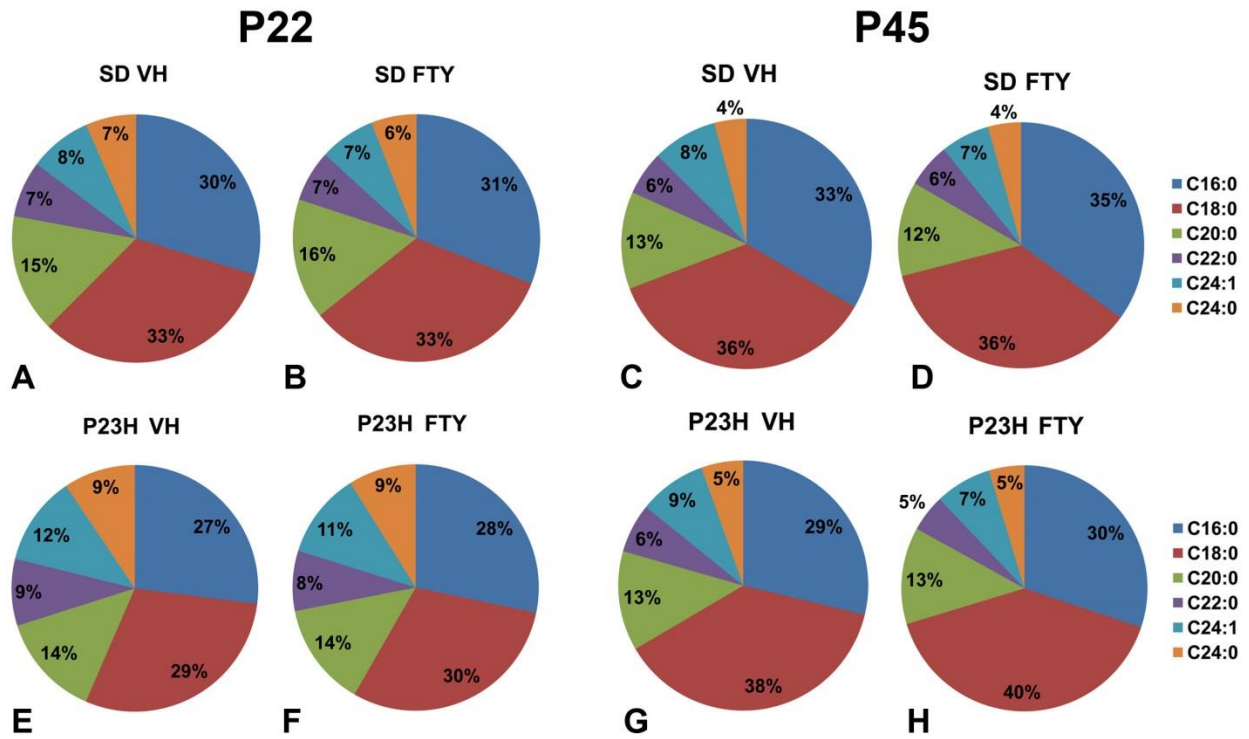
**Figure S1. Compositional changes in ceramides.** Retinas were harvested, processed to collect sphingolipids, and analyzed using LC-MS/MS. Pie charts developed from compositional analysis of ceramides in respective strain/treatment combinations. SD VH, vehicle-treated Sprague Dawley rats; SD FTY, FTY720-treated Sprague Dawley rats; P23H VH, vehicle-treated P23H-1 rhodopsin mutant rats; P23H1 FTY, FTY720-treated P23H-1 rhodopsin mutant rats.

Supplement Figure 2. Compositional changes in hexosyl-ceramides.



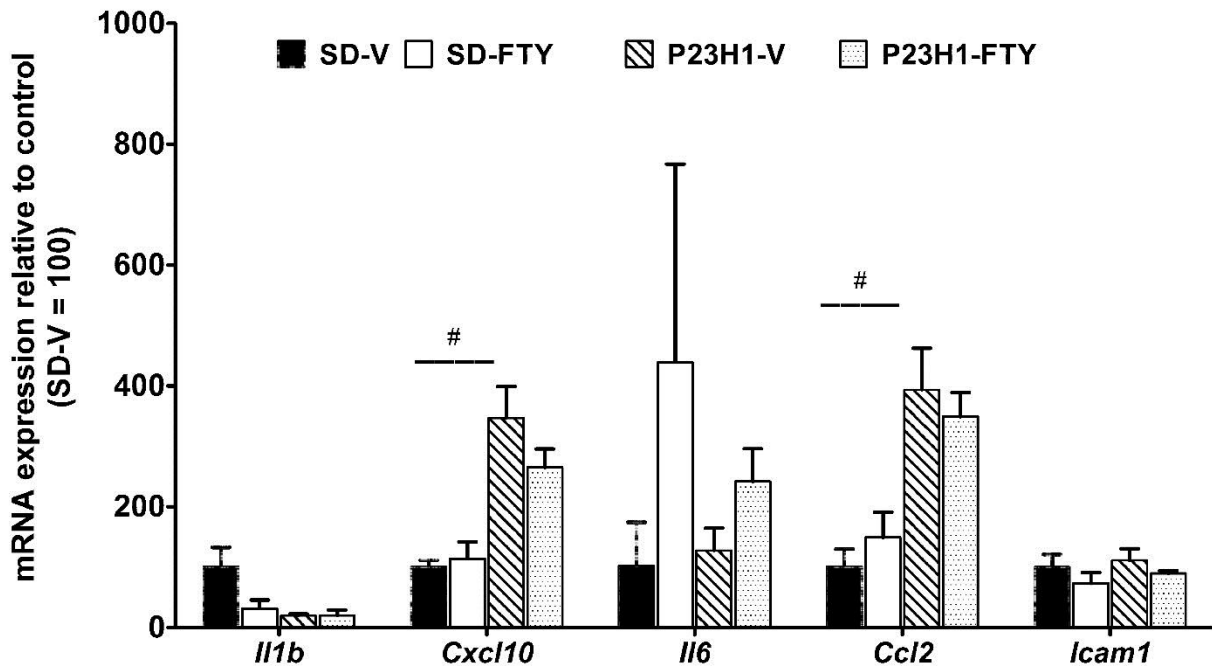
**Figure S2. Compositional changes in hexosyl-ceramides.** Retinas were harvested, processed to collect sphingolipids, and analyzed using LC-MS/MS. Pie charts developed from compositional analysis of Hex-Cer in respective strain/treatment combinations. SD VH, vehicle-treated Sprague Dawley rats; SD FTY, FTY720-treated Sprague Dawley rats; P23H VH, vehicle-treated P23H-1 rhodopsin mutant rats; P23H FTY, FTY720-treated P23H-1 rhodopsin mutant rats.

Supplement Figure 3. Compositional changes in sphingomyelins.



**Figure S3. Compositional changes in sphingomyelins.** Retinas were harvested, processed to collect sphingolipids, and analyzed using LC-MS/MS. Pie charts developed from compositional analysis of sphingomyelins in respective strain/treatment combinations. SD VH, vehicle-treated Sprague Dawley rats; SD FTY, FTY720-treated Sprague Dawley rats; P23H VH, vehicle-treated P23H-1 rhodopsin mutant rats; P23H FTY, FTY720-treated P23H-1 rhodopsin mutant rats.

**Supplement Figure 4. Expression analysis of inflammatory marker genes by qRT-PCR.**



**Figure S4. Expression analysis of inflammatory marker genes by qRT-PCR.** Expression of some common proteins involved in the inflammatory cascade analyzed by qRT-PCR. Each sample included consists of three independent qRT-PCR experiments that were averaged and normalized against two housekeeping genes; relative expression represented as  $\pm$ SE. Data represented relative to SD-V control, which is considered as 100. SD-V, vehicle-treated Sprague Dawley rats; SD-FTY, FTY720-treated Sprague Dawley rats; P23H-V, vehicle-treated P23H-1 rhodopsin mutant rats; P23H-FTY, FTY720-treated P23H-1 rhodopsin mutant rats. *Il1b*, Interleukin 1 beta; *Cxcl10*, C-X-C motif chemokine 10; *Il6*, Interleukin 6; *Ccl2*, chemokine (C-C motif) ligand 2; *Icam1*, Intercellular Adhesion Molecule 1. # =  $p < 0.05$  with respect to strain differences in equivalent treatment conditions; Student's *t*-test ( $n = 4$  samples/group).