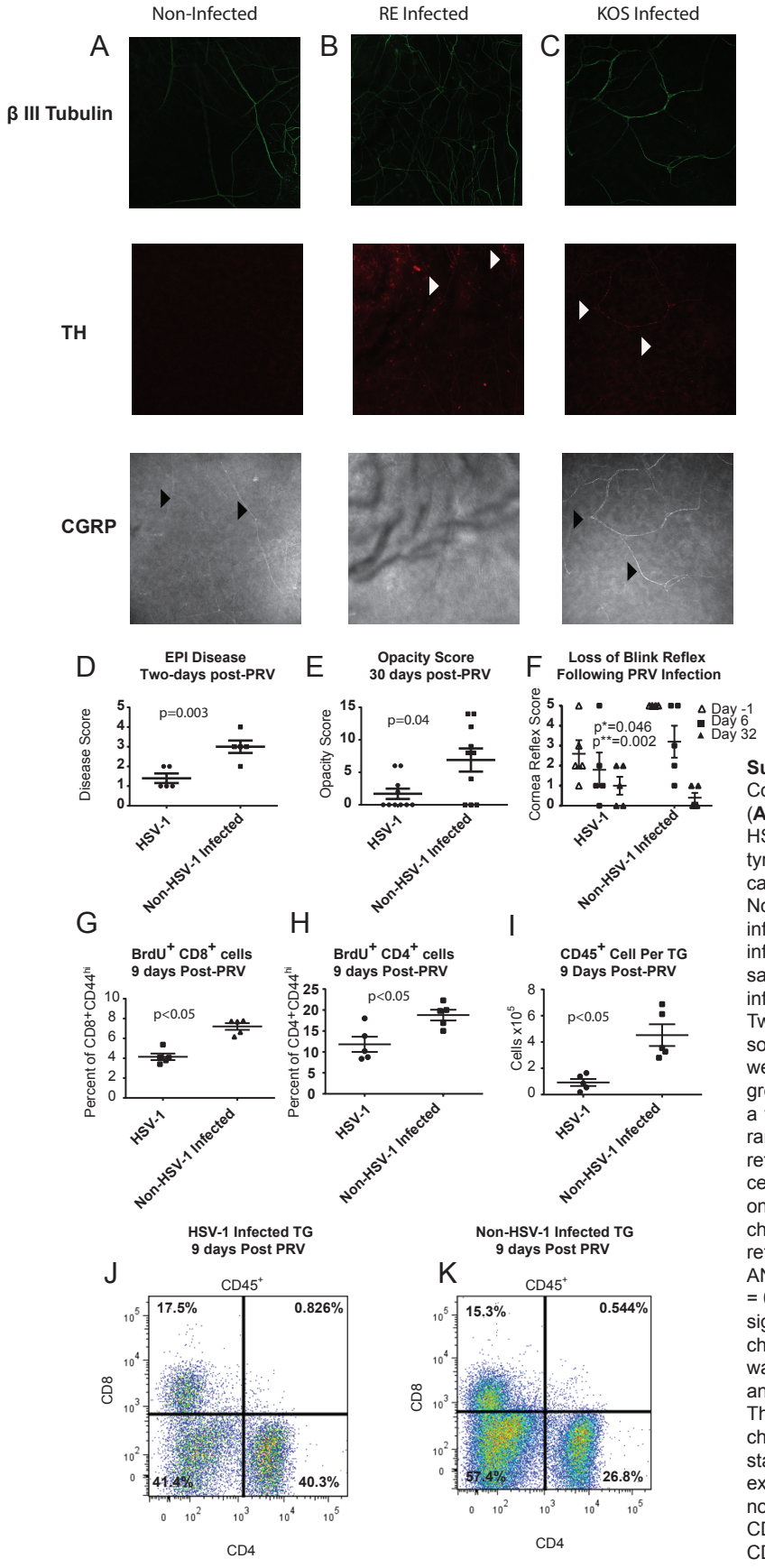

Supplementary Figure 1

Confocal images of flat mounts of whole non-infected C57BL/6 corneas (**A**), or corneas obtained 28 days after infection with HSV-1 RE d (**B**) or HSV-1 KOS (**C**) and stained for the βIII tubulin (all neurons, top row), tyrosine hydroxylase (TH) (sympathetic nerves, middle row), or calcitonin gene-related peptide (CGRP) (sensory nerves, bottom row). Note that normal corneas contain only sensory nerve fibers, HSV-1 RE infected corneas contain only sympathetic nerves, while HSV-1 KOS infected corneas show sympathetic and sensory nerve fibers within the same nerve bundle. Thirty-four days after HSV-1 corneal infection, infected or non-infected corneas were infected with 1x105 pfu of PRV. Two-days after PRV infection corneas were treated with Fluorescein sodium and lesion size scored (**D**). Group differences in lesion size were assessed using a Mann-Whitney rank sum test (n=5 for each group). At 30 days post-PRV challenge corneal opacity was scored on a 16 point scale (**E**), and group means compared with a Mann-Whitney rank sum test (data are exemplary of three experiments). Corneal blink reflex was assessed in 4 quadrants of the peripheral cornea and the central cornea in previously HSV-1 infected and non-infected corneas one day before PRV infection (Day -1) and 6 and 32 days after PRV challenge (**F**). Data are recorded as the number of corneal areas that retained blink reflex and group means were analyzed using a two-way ANOVA. The change in means over time were significantly different ($p = 0.046$) based on the state prior to PRV challenge, and were also significantly different ($p= 0.002$) as a function of time post PRV challenge. The systemic immune response 9 days after PRV infection was assessed based on BrdU incorporation into CD44high CD8+ (**G**) and CD44highCD4+ (**H)** cells isolated from the draining lymph node. The BrdU was administered intraperitoneally 2 days before PRV challenge and single cell suspensions of draining lymph nodes were stained for CD44, CD4, and CD8. Trigeminal ganglia (TG) were excised 9 days after PRV challenge of previously HSV-1 infected and non-infected corneas. The dispersed TG cells were stained for CD45, CD4, and CD8 and analyzed by flow cytometry. The total numbers of CD45+ cells/TG are recorded (**I**), and the significance of group differences was assessed by a student's t-test. Representative flow plots gated on CD45+ cells in TG obtained 9 days after PRV infection of corneas that were previously HSV-1 KOS infected (**J**) or non-infected (**K**) are shown with the frequency of cells in each quadrant listed. Data is representative of 1 of 2 experiments.