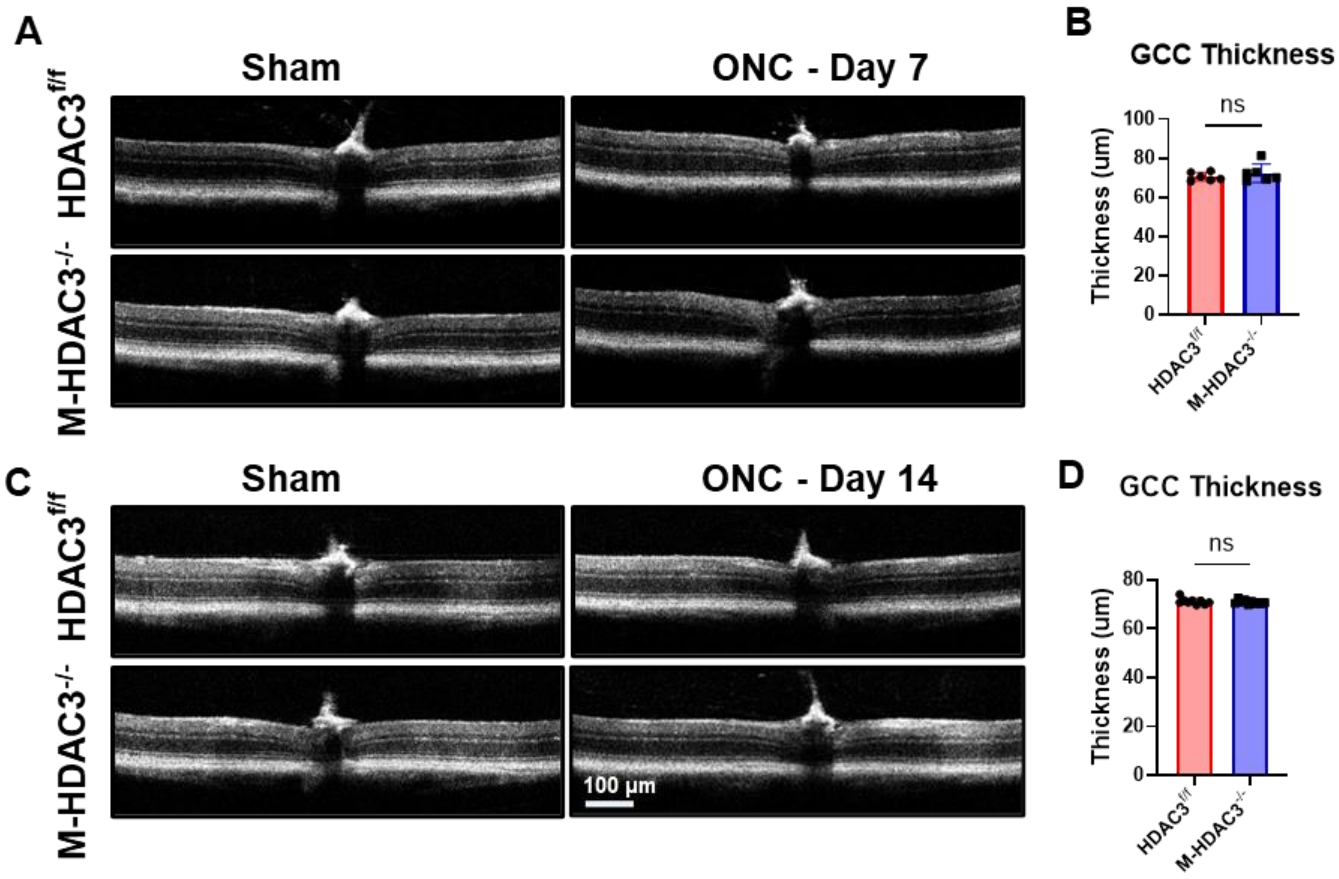


Figure S1. OCT data from sham and injured M-HDAC3$^{-/-}$ and HDAC3$^{f/f}$ mice. Optical coherence tomography (OCT) performed on anesthetized mice at 7 **(A, B)** and 14 days **(C, D)** post-ONC shows no improvement in ganglion cell complex (GCC) layer thickness in M-HDAC3$^{-/-}$ retinas compared to control HDAC3$^{f/f}$. n= 9-10 per group.

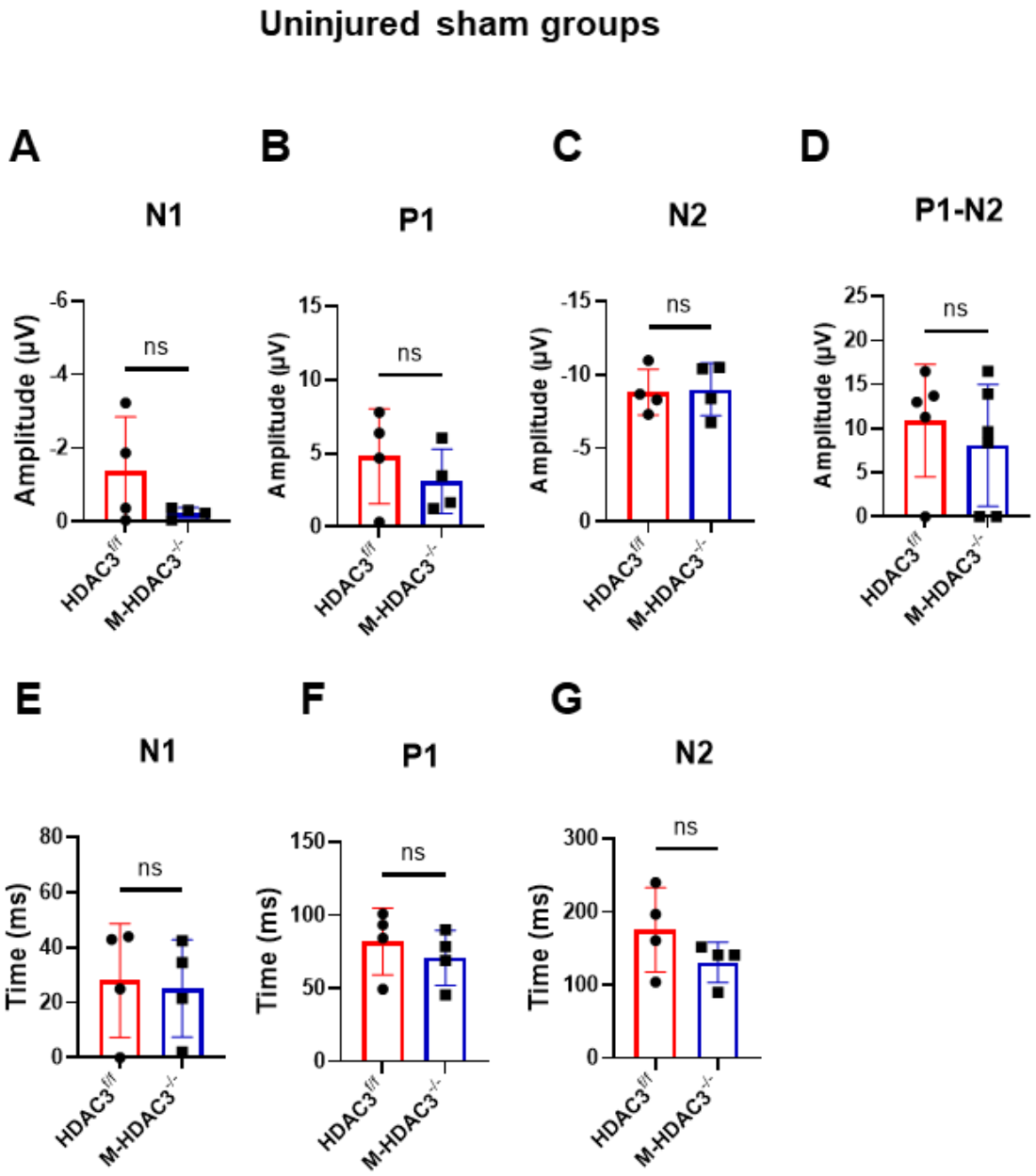


Figure S2. PERG data from M-HDAC3$^{-/-}$ and HDAC3$^{f/f}$ sham mice. Quantification of N1, P1, and N2 waveforms from PERG conducted on HDAC3$^{f/f}$ and M-HDAC3$^{-/-}$ sham mice demonstrates no significant impact of myeloid HDAC3 deletion on the amplitude of N1, P1, and N2 **(A-D)**, nor on their latencies **(E-G)**.

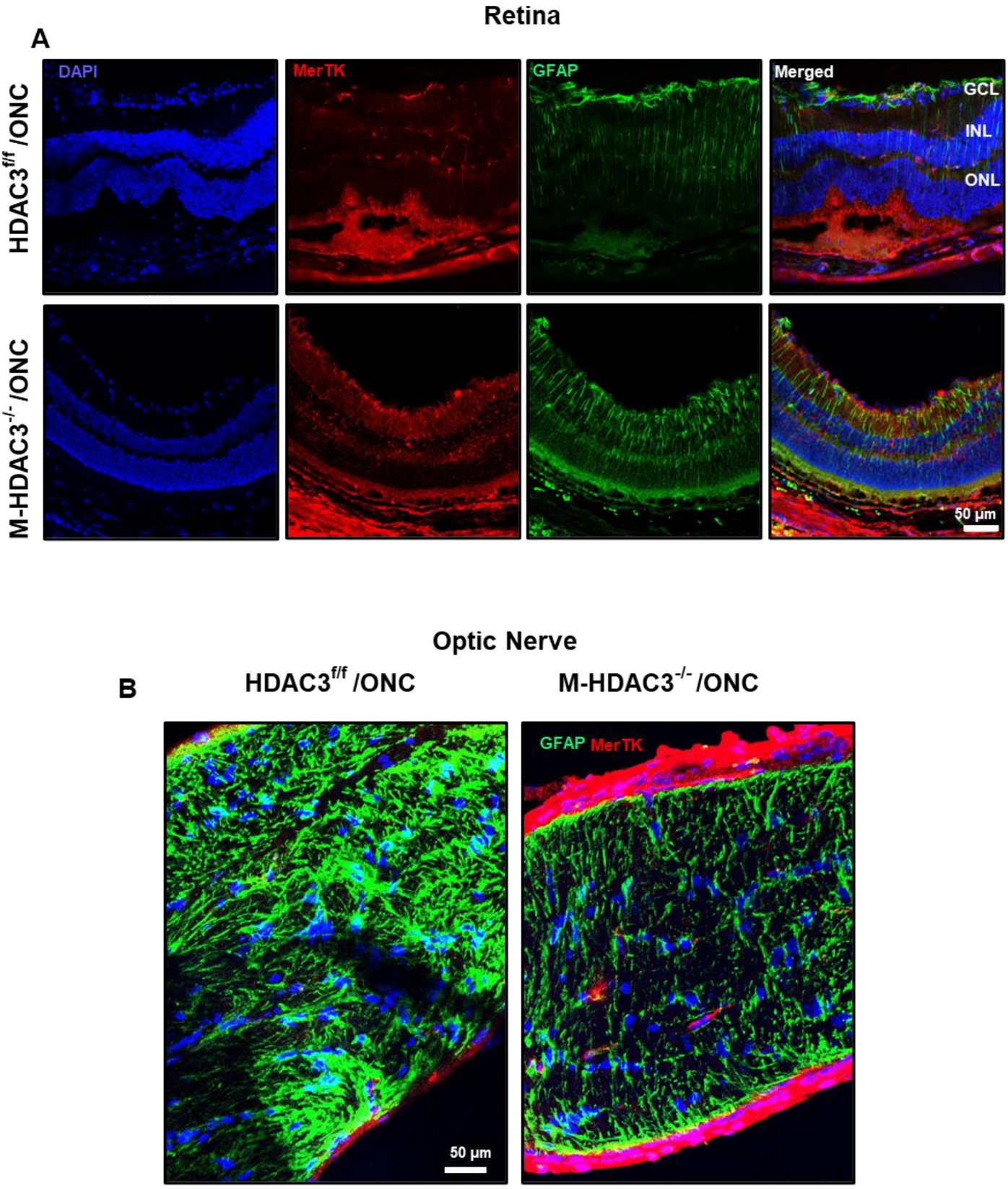


Figure S3. MerTK expression in glial cells following ONC injury. (A) Representative confocal images of glial cells expressing GFAP (green) in the retinas of HDAC3$^{f/f}$ and M-HDAC3$^{-/-}$ mice with minimal colocalization with

MerTK (red) at day 5 post-ONC. **(B)** Similarly, in injured optic nerve sections, GFAP and MerTK colocalization were minimal in M-HDAC3$^{-/-}$ and HDAC3$^{f/f}$ control mice at day 5 post-ONC.

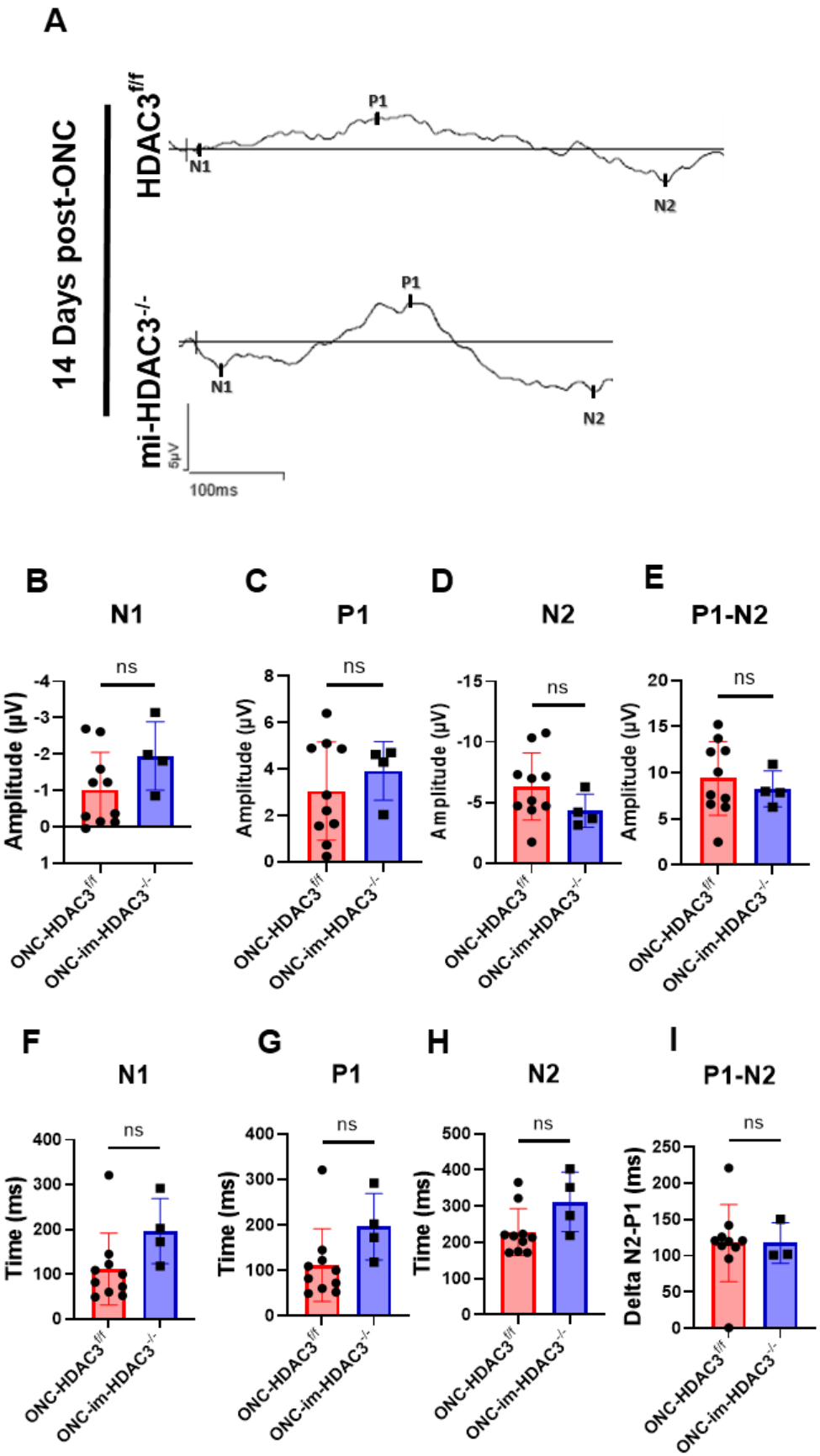
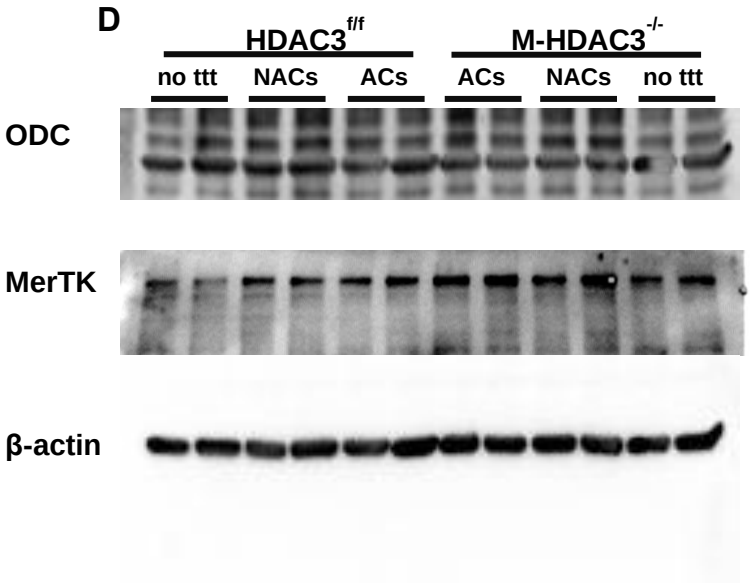

A
14 Days post-ONC
HDAC3f/f
mi-HDAC3-/-
P1
N1
N2
5μV
100ms
B
N1
C
P1
D
N2
E
P1-N2
ns
Amplitude (μV)
ONC-HDAC3f/f
ONC-im-HDAC3-/-
F
N1
G
P1
H
N2
I
P1-N2
Time (ms)
Delta N2-P1 (ms)

Figure S4. PERG data from sham and injured im-HDAC3$^{-/-}$ and HDAC3$^{f/f}$ mice. (A) Representative of N1, P1, and N2 waveforms in the retinas of microglia-specific HDAC3 KO (im-HDAC3$^{-/-}$) and HDAC3$^{f/f}$ mice 14 days post-ONC. Quantification of N1, P1, and N2 waveforms demonstrates no significant impact of microglia-only HDAC3 deletion on the amplitude of N1, P1, and N2 **(B-E)**, nor their latencies **(F-I)**.

Uncropped Western blots

F6


D
HDAC3f/f
M-HDAC3-/-
no ttt
NACs
ACs
ACs
NACs
no ttt
ODC
MerTK
β-actin