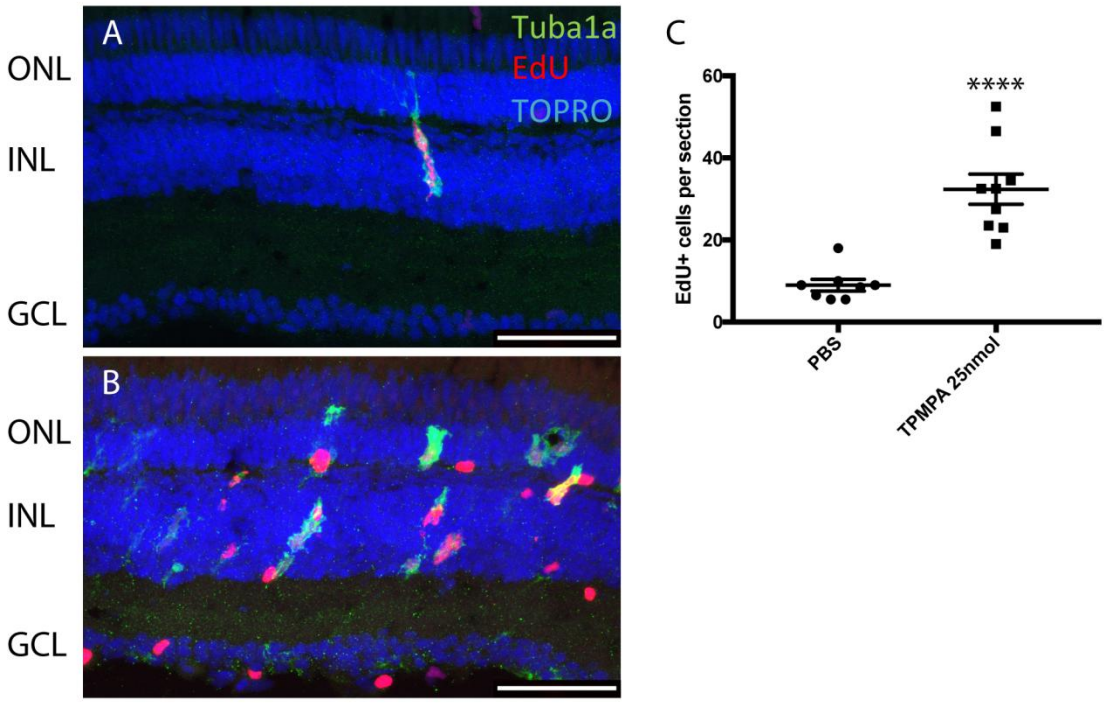

Additional Figure 1 Inhibition of the $GABA_A$-ρ receptor in the absence of damage results in a proliferative response.

Tg*(1016tuba1a:gfp)* zebrafish were intravitreally injected with either PBS (A) or 25 nmol of the $GABA_A$-receptor inhibitor TPMPA (B). After 3 hours, fish were given an intraperitoneal injection of 20 µL of 10 mM EdU with a second intraperitoneal injection of EdU after 24 hours. Eyes were collected 48 hours after the TPMPA injection and sectioned, followed by immunostaining with antibodies against GFP to monitor dedifferentiation of MG and detection of EdU incorporation using the Click-iT EdU labeling kit to monitor DNA replication. Scale bar: 50 µm. Green: *tuba1a*:GFP; red: EdU; blue–TO-PRO-3 (A, B). ONL: outer nuclear layer. INL: inner nuclear layer. GCL: ganglion cell layer. Number of optical slices: 47 (A) and 45 (B). (C) Quantification of EdU^+ cells. Each data point is a separate eye and is an average of two sections, counting all $PCNA^+$ cells in the inner nuclear layer. Two-tailed Student's *t*-tests were used to test for significance. Error bars are the mean ± SEM. $n = 9$. ****$P = 4.7 \times 10^{-5}$, *vs.* PBS. EdU: 5-Ethynyl-2′-deoxyuridine; $GABA_A$: Gamma aminobutyric acid A; GFP: green fluorescent protein; PCNA: proliferating cell nuclear antigen; TPMPA: (1,2,5,6-tetrahydropyridin-4-yl)methylphosphinic acid.