

CaMPARI_functional-mapping

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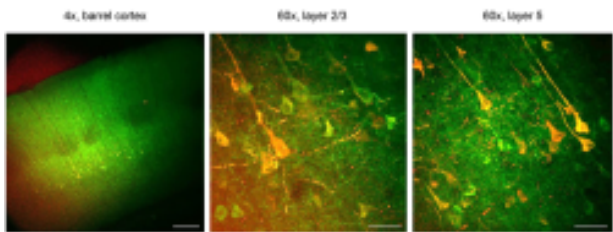
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url	https://doi.org/10.3389/fnsyn.2019.00016
status	Published
date_uploaded	2019-06-05 23:42:21
date_published	2019

Published

Caption: Figure 5. CaMPARI for all-optical functional connectivity mapping. CaMPARI was expressed in S1 and ChR2-EYFP was expressed in M1 cortex. In acute ex vivo brain slices, violet light (405 nm, 120 mW cm-2) was applied to S1 cortex that activates ChR2 and simultaneously drives conversion of post-synaptic CaMPARI-expressing neurons in layer 2/3 and 5. Here, conversion and stimulation light pulses were delivered at 10 Hz for a second, with a step of light for 5 s after the stimulus. There was a 12 s interval between each train, and this was repeated 10 times. Left, one-photon image of CaMPARI green/ChR2-EYFP under 4 x magnification. After violet light illumination, red CaMPARI fluorescence is evident in layers 2/3 and 5. Scale bar, 200 microm. Middle and right panels, post-stimulation/conversion 60 x magnification two-photon images of CaMPARI red/green in layers 2/3 and 5, from the corresponding slices. Scale bar, 50 microm. Exclusively in this Figure, CaMPARI (not CaMPARI2) was expressed.

Comments: scale bars mean sth different in a, b and c.

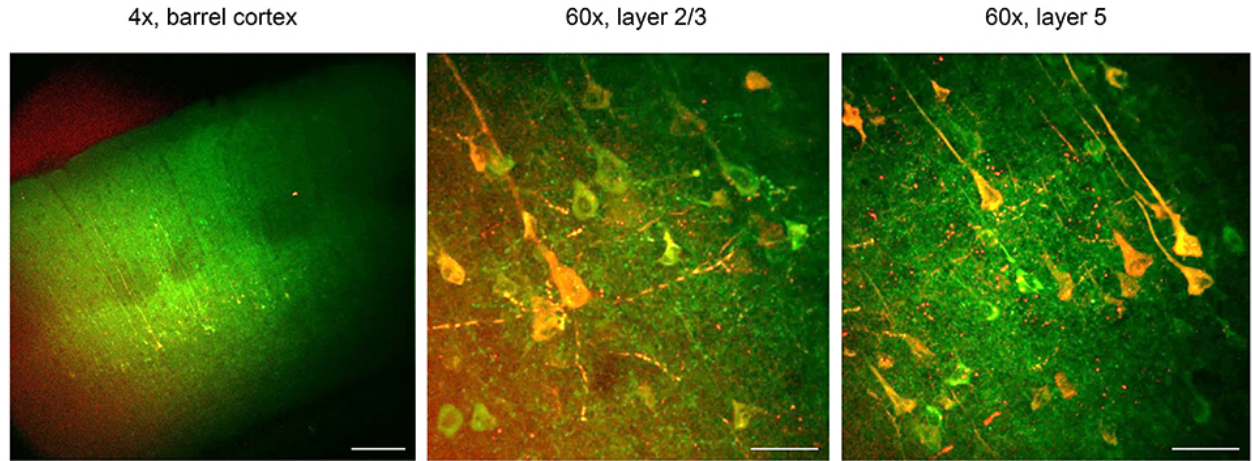


Figure 5. CaMPARI for all-optical functional connectivity mapping. CaMPARI was expressed in S1 and ChR2-EYFP was expressed in M1 cortex. In acute ex vivo brain slices, violet light (405 nm, 120 mW cm⁻²) was applied to S1 cortex that activates ChR2 and simultaneously drives conversion of post-synaptic CaMPARI-expressing neurons in layer 2/3 and 5. Here, conversion and stimulation light pulses were delivered at 10 Hz for a second, with a step of light for 5 s after the stimulus. There was a 12 s interval between each train, and this was repeated 10 times. Left, one-photon image of CaMPARI green/ChR2-EYFP under 4 x magnification. After violet light illumination, red CaMPARI fluorescence is evident in layers 2/3 and 5. Scale bar, 200 microm. Middle and right panels, post-stimulation/conversion 60 x magnification two-photon images of CaMPARI red/green in layers 2/3 and 5, from the corresponding slices. Scale bar, 50 microm. Exclusively in this Figure, CaMPARI (not CaMPARI2) was expressed.