

Ultrasensitive florescent proteins for imaging neuronal activity

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Abstract

The calcium sensor family GCaMP6 was developed and used in flies, mice, and zebrafish. In layer 2/3 pyramidal neurons the indicator reliably detected single action potentials in somata, and synaptic calcium transients in dendritic spines.

It's best to test calcium indicators in neurons, because neurons have very fast calcium dynamics and low calcium accumulation.