

Resource Summary Report

Generated by [RRID](#) on Aug 17, 2026

AAV-hSyn1-GCaMP6f-P2A-nls-dTomato

RRID:Addgene_51085

Type: Plasmid

Proper Citation

RRID:Addgene_51085

Plasmid Information

URL: <http://www.addgene.org/51085>

Proper Citation: RRID:Addgene_51085

Insert Name: GCaMP6f

Organism: Synthetic

Bacterial Resistance: Ampicillin

Vector Backbone Description: Backbone Marker:Modified from Karl Deisseroth;
Backbone Size:4590; Vector Backbone:pAAV-hSyn1-WPRE-HGHpA; Vector
Types:Mammalian Expression, AAV; Bacterial Resistance:Ampicillin

Comments: The addition of the P2A-nls-dTomato allows for easy identification of GCaMP6 expressing cells exhibiting nuclear red fluorescence that does not significantly overlap with the cytosolic GCaMP signal. The GCaMP and fluorophore are physically uncoupled. Permissions were obtained from Douglas Kim and the Clontech licensing office for depositing this new plasmid.

Plasmid Name: AAV-hSyn1-GCaMP6f-P2A-nls-dTomato

Record Creation Time: 20220422T222301+0000

Record Last Update: 20260815T081614+0000

Ratings and Alerts

No rating or validation information has been found for AAV-hSyn1-GCaMP6f-P2A-nls-dTomato.

No alerts have been found for AAV-hSyn1-GCaMP6f-P2A-nls-dTomato.

Data and Source Information

Usage and Citation Metrics

We found 17 mentions in open access literature.

Listed below are recent publications. The full list is available at [RRID](#) .

Plotnikova AS, et al. (2026) Retrograde transduction of dopaminergic cells in substantia nigra of rhesus monkey. bioRxiv : the preprint server for biology.

Dong Z, et al. (2025) Simultaneous two-color imaging with a dual-channel miniscope in freely behaving mice. Science advances, 11(27), eadr6470.

Lu H, et al. (2025) Repetitive magnetic stimulation with iTBS600 induces persistent structural and functional plasticity in mouse organotypic slice cultures. bioRxiv : the preprint server for biology.

Ford AN, et al. (2024) Auditory Corticofugal Neurons Transmit Auditory and Non-auditory Information During Behavior. The Journal of neuroscience : the official journal of the Society for Neuroscience, 44(7).

Antonoudiou P, et al. (2024) Experience-dependent information routing through the basolateral amygdala shapes behavioral outcomes. Cell reports, 43(7), 114489.

Dong Z, et al. (2024) Simultaneous dual-color calcium imaging in freely-behaving mice. bioRxiv : the preprint server for biology.

Verstraelen P, et al. (2024) Integrated staging of morphofunctional connectivity in neuronal cultures. STAR protocols, 5(2), 102957.

Tena-Morraja P, et al. (2023) Synaptic Activity Regulates Mitochondrial Iron Metabolism to Enhance Neuronal Bioenergetics. International journal of molecular sciences, 24(2).

Voloudakis G, et al. (2022) A translational genomics approach identifies IL10RB as the top candidate gene target for COVID-19 susceptibility. NPJ genomic medicine, 7(1), 52.

Dingle YL, et al. (2021) Integrated functional neuronal network analysis of 3D silk-collagen scaffold-based mouse cortical culture. STAR protocols, 2(1), 100292.

Bonzanni M, et al. (2021) On the prediction of neuronal microscale topology descriptors based on mesoscale recordings. The European journal of neuroscience, 54(6), 6147.

Verschuuren M, et al. (2019) High-throughput microscopy exposes a pharmacological window in which dual leucine zipper kinase inhibition preserves neuronal network connectivity. Acta neuropathologica communications, 7(1), 93.

Alp??r A, et al. (2018) Hypothalamic CNTF volume transmission shapes cortical noradrenergic excitability upon acute stress. The EMBO journal, 37(21).

Reed SJ, et al. (2018) Coordinated Reductions in Excitatory Input to the Nucleus Accumbens Underlie Food Consumption. *Neuron*, 99(6), 1260.

Xiong R, et al. (2018) Selective Labeling of Individual Neurons in Dense Cultured Networks With Nanoparticle-Enhanced Photoporation. *Frontiers in cellular neuroscience*, 12, 80.

Octeau JC, et al. (2018) An Optical Neuron-Astrocyte Proximity Assay at Synaptic Distance Scales. *Neuron*, 98(1), 49.

Ho SM, et al. (2017) Evaluating Synthetic Activation and Repression of Neuropsychiatric-Related Genes in hiPSC-Derived NPCs, Neurons, and Astrocytes. *Stem cell reports*, 9(2), 615.