Resource Summary Report

Generated by RRID on Aug 26, 2026

pAAV.hSyn.iGluSnFr.WPRE.SV40

RRID:Addgene_98929
Type: Plasmid

Proper Citation

RRID:Addgene_98929

Plasmid Information

URL: http://www.addgene.org/98929

Proper Citation: RRID:Addgene_98929

Insert Name: iGluSnFr

Organism: Synthetic

Bacterial Resistance: Ampicillin

Defining Citation: PMID:23314171

Vector Backbone Description: Vector Backbone:pAAV; Vector Types:Mammalian Expression, AAV; Bacterial Resistance:Ampicillin

Comments: Penn Vector Core PV2723. Biosensor iGluSnFRa is a single-wavelength glutamate sensor constructed from E. coli GltI and cpGFP. iGluSnFR is bright and photostable, with 4.5 (_F/F)max in vitro, under both 1- and 2-photon illumination. These iGluSnFR constructs contain a K158R (GFP numbering) mutation that is not referenced in the publication. Depositing lab has confirmed that this mutation is expected and that the plasmids function as described. ** A newer version of this sensor is available. Please see iGluSnFR3 plasmids at https://www.addgene.org/browse/article/28220233/ **

Plasmid Name: pAAV.hSyn.iGluSnFr.WPRE.SV40

Record Creation Time: 20220422T222632+0000

Record Last Update: 20260815T082243+0000

Ratings and Alerts

No rating or validation information has been found for pAAV.hSyn.iGluSnFr.WPRE.SV40.

No alerts have been found for pAAV.hSyn.iGluSnFr.WPRE.SV40.

Data and Source Information

Source: Addgene

Usage and Citation Metrics

We found 21 mentions in open access literature.

Listed below are recent publications. The full list is available at RRID .

Karagulyan N, et al. (2025) Gating of hair cell Ca2+ channels governs the activity of cochlear neurons. Science advances, 11(25), eadu7898.

Sitjà-Roqueta L, et al. (2025) Photoactivated adenylyl cyclase in cortical astrocytes promotes synaptic potentiation and reveals alterations in Huntington's disease. iScience, 28(11), 113640.

Soto F, et al. (2025) Molecular mechanism establishing the OFF pathway in vision. Nature communications, 16(1), 3708.

Kamesh A, et al. (2025) Emergent glutamate & dopamine dysfunction in VPS35(D620N) knock-in mice and rapid reversal by LRRK2 inhibition. NPJ Parkinson's disease, 11(1), 106.

Coulter O, et al. (2025) Adolescent Alcohol Exposure Disrupts Astrocyte-Synaptic Structural And Functional Coupling In The Male Dorsal Hippocampus. bioRxiv : the preprint server for biology.

Hain PJH, et al. (2024) Optical measurement of glutamate release robustly reports short-term plasticity at a fast central synapse. Frontiers in molecular neuroscience, 17, 1351280.

Forrest MP, et al. (2023) Rescue of neuropsychiatric phenotypes in a mouse model of 16p11.2 duplication syndrome by genetic correction of an epilepsy network hub. Nature communications, 14(1), 825.

Gaynes JA, et al. (2022) Classical center-surround receptive fields facilitate novel object detection in retinal bipolar cells. Nature communications, 13(1), 5575.

Kundu S, et al. (2022) High throughput 3D gel-based neural organotypic model for cellular assays using fluorescence biosensors. Communications biology, 5(1), 1236.

Church E, et al. (2022) Synaptic Integration of Subquantal Neurotransmission by Colocalized G Protein-Coupled Receptors in Presynaptic Terminals. The Journal of neuroscience : the official journal of the Society for Neuroscience, 42(6), 980.

Tian X, et al. (2022) A luciferase prosubstrate and a red bioluminescent calcium indicator for imaging neuronal activity in mice. Nature communications, 13(1), 3967.

Özçete ÖD, et al. (2021) A sensory cell diversifies its output by varying Ca2+ influx-release coupling among active zones. The EMBO journal, 40(5), e106010.

Jensen TP, et al. (2021) Release probability increases towards distal dendrites boosting high-frequency signal transfer in the rodent hippocampus. eLife, 10.

MacDonald DI, et al. (2021) A central mechanism of analgesia in mice and humans lacking the sodium channel NaV1.7. Neuron, 109(9), 1497.

Eles JR, et al. (2021) The temporal pattern of intracortical microstimulation pulses elicits distinct temporal and spatial recruitment of cortical neuropil and neurons. Journal of neural engineering, 18(1).

Martinez D, et al. (2020) Loss of excitatory amino acid transporter restraint following chronic intermittent hypoxia contributes to synaptic alterations in nucleus tractus solitarii. Journal of neurophysiology, 123(6), 2122.

Eles JR, et al. (2020) In vivo imaging of calcium and glutamate responses to intracortical microstimulation reveals distinct temporal responses of the neuropil and somatic compartments in layer II/III neurons. Biomaterials, 234, 119767.

Henneberger C, et al. (2020) LTP Induction Boosts Glutamate Spillover by Driving Withdrawal of Perisynaptic Astroglia. Neuron, 108(5), 919.

Wilkie CM, et al. (2020) Hippocampal Synaptic Dysfunction in a Mouse Model of Huntington Disease Is Not Alleviated by Ceftriaxone Treatment. eNeuro, 7(3).

Hamodi AS, et al. (2020) Transverse sinus injections drive robust whole-brain expression of transgenes. eLife, 9.