Resource Summary Report

Generated by FDI Lab - SciCrunch.org on May 14, 2025

pAAV-CaMKIIa-hChR2(C128S/D156A)-mCherry

RRID:Addgene_35502 Type: Plasmid

Proper Citation

RRID:Addgene_35502

Plasmid Information

URL: http://www.addgene.org/35502

Proper Citation: RRID:Addgene_35502

Insert Name: hChR2(C128S/D156A)-mCherry

Organism: Chlamydomonas reinhardtii

Bacterial Resistance: Ampicillin

Defining Citation: PMID:21796121

Vector Backbone Description: Backbone Size:5385; Vector Backbone:pAAV; Vector Types:Mammalian Expression, AAV, Other; Bacterial Resistance:Ampicillin

Comments: ChR2 variant harboring two amino acid substitutions which act to stabilize the conducting state of the channel to deactivate with a time constant of nearly 30 minutes following a brief pulse of activating blue light. Like previously published step function opsins, this stabilized step function opsin (SSFO) may be deactivated using yellow light (590nm). The stabilized open state of the channel allows for both lower power activation, meaning in some circumstances the light delivery system need not penetrate the brain, as well as for behavior in the absence of a tethered laser or other light delivery system.

Plasmid Name: pAAV-CaMKIIa-hChR2(C128S/D156A)-mCherry

Relevant Mutation: C128S and D156A

Record Creation Time: 20220422T222151+0000

Record Last Update: 20220422T223903+0000

Ratings and Alerts

No rating or validation information has been found for pAAV-CaMKIIahChR2(C128S/D156A)-mCherry.

No alerts have been found for pAAV-CaMKIIa-hChR2(C128S/D156A)-mCherry.

Data and Source Information

Source: Addgene

Usage and Citation Metrics

We found 4 mentions in open access literature.

Listed below are recent publications. The full list is available at FDI Lab - SciCrunch.org.

Luo H, et al. (2024) Amyloid-? oligomers trigger sex-dependent inhibition of GIRK channel activity in hippocampal neurons in mice. Science signaling, 17(856), eado4132.

Rose TR, et al. (2023) GIRK channel activity in prelimbic pyramidal neurons regulates the extinction of cocaine conditioned place preference in male mice. Addiction biology, 28(1), e13256.

Vo BN, et al. (2021) Bidirectional influence of limbic GIRK channel activation on innate avoidance behavior. The Journal of neuroscience : the official journal of the Society for Neuroscience, 41(27), 5809.

Rose TR, et al. (2021) Impact of Acute and Persistent Excitation of Prelimbic Pyramidal Neurons on Motor Activity and Trace Fear Learning. The Journal of neuroscience : the official journal of the Society for Neuroscience, 41(5), 960.