

Resource Summary Report

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

pAAV-Ef1a-DIO hChR2(C128S/D156A)-mCherry

RRID:Addgene_35504

Type: Plasmid

Proper Citation

RRID:Addgene_35504

Plasmid Information

URL: <http://www.addgene.org/35504>

Proper Citation: RRID:Addgene_35504

Insert Name: hChR2(C128S/D156A)-mCherry

Organism: Chlamydomonas reinhardtii

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:21796121](#)

Vector Backbone Description: Vector Backbone:pAAV; Vector Types:Mammalian Expression, AAV; 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-Ef1a-DIO hChR2(C128S/D156A)-mCherry

Relevant Mutation: C128S and D156A

Record Creation Time: 20220422T222151+0000

Record Last Update: 20260815T081401+0000

Ratings and Alerts

No rating or validation information has been found for pAAV-Ef1a-DIO hChR2(C128S/D156A)-mCherry.

No alerts have been found for pAAV-Ef1a-DIO hChR2(C128S/D156A)-mCherry.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 1 mentions in open access literature.

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

Chimerel C, et al. (2017) Optogenetic Analysis of Depolarization-Dependent Glucagonlike Peptide-1 Release. Endocrinology, 158(10), 3426.