Resource Summary Report

Generated by dkNET on Aug 28, 2026

pAAV-GFAP-hM4D(Gi)-mCherry

RRID:Addgene_50479
Type: Plasmid

Proper Citation

RRID:Addgene_50479

Plasmid Information

URL: http://www.addgene.org/50479

Proper Citation: RRID:Addgene_50479

Insert Name: hM4D(Gi)-mCherry

Bacterial Resistance: Ampicillin

Vector Backbone Description: Backbone Size:4818; Vector Backbone:pAAV; Vector Types:AAV; Bacterial Resistance:Ampicillin

Comments: These plasmids were generated as part of the Illuminating the Druggable Genome (IDG) program sponsored by the NIH Common Fund. The goal of this program is to identify, gather, and distribute information and resources for proteins that currently are not well-studied yet belong to commonly drug-targeted protein families: protein kinases, non-olfactory G-protein coupled receptors (GPCRs), and ion channels. The IDG program is designed to develop fundamental research tools for understudied proteins, elucidate their function, and disseminate the IDG-related resources and data to the greater scientific community.

Plasmid Name: pAAV-GFAP-hM4D(Gi)-mCherry

Relevant Mutation: See supplemental documents for DREADD mutations

Record Creation Time: 20220422T222258+0000

Record Last Update: 20260815T081606+0000

Ratings and Alerts

No rating or validation information has been found for pAAV-GFAP-hM4D(Gi)-mCherry.

No alerts have been found for pAAV-GFAP-hM4D(Gi)-mCherry.

Data and Source Information

Source: Addgene

Usage and Citation Metrics

We found 18 mentions in open access literature.

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

Ozkaya KS, et al. (2026) Brainstem Astrocytes Regulate Estrus-Dependent Oscillations in Food Intake. Journal of neurochemistry, 170(6), e70498.

Heimbach SN, et al. (2026) Temporal cortex astrocytic Gi-GPCR signaling regulates learned threat responses. bioRxiv : the preprint server for biology.

Vo TT, et al. (2025) Somatostatin-expressing interneurons induce early NO-driven and late specific astrocyte-mediated vasodilation. Nature communications, 16(1), 6606.

Ryu YK, et al. (2025) Regulating astrocytic activity in the dorsal striatum mitigates L-dopa-induced dyskinesia in Parkinson's disease. Scientific reports, 15(1), 26635.

Evans WR, et al. (2025) Chemogenetic Control of Striatal Astrocytes Improves Parkinsonian Motor Deficits in Mice. Glia, 73(6), 1188.

Evans WR, et al. (2024) Functional activation of dorsal striatum astrocytes improves movement deficits in hemi-parkinsonian mice. bioRxiv : the preprint server for biology.

Abdelaziz MA, et al. (2024) Exploring the role of spinal astrocytes in the onset of hyperalgesic priming signals in acid-induced chronic muscle pain. PNAS nexus, 3(9), pgae362.

Asher MJ, et al. (2023) A Complete Endocannabinoid Signaling System Modulates Synaptic Transmission between Human Induced Pluripotent Stem Cell-Derived Neurons. Molecular pharmacology, 103(2), 100.

Iqbal Z, et al. (2023) Adrenergic signalling to astrocytes in anterior cingulate cortex contributes to pain-related aversive memory in rats. Communications biology, 6(1), 10.

Patton AP, et al. (2022) Astrocytes sustain circadian oscillation and bidirectionally determine circadian period, but do not regulate circadian phase in the suprachiasmatic nucleus. The Journal of neuroscience : the official journal of the Society for Neuroscience, 42(28), 5522.

Herrera Moro Chao D, et al. (2022) Hypothalamic astrocytes control systemic glucose metabolism and energy balance. Cell metabolism, 34(10), 1532.

Vanacker C, et al. (2021) A role for glial fibrillary acidic protein (GFAP)-expressing cells in the regulation of gonadotropin-releasing hormone (GnRH) but not arcuate kisspeptin neuron output in male mice. eLife, 10.

Van Den Herrewegen Y, et al. (2021) Side-by-side comparison of the effects of Gq- and Gi-DREADD-mediated astrocyte modulation on intracellular calcium dynamics and synaptic plasticity in the hippocampal CA1. Molecular brain, 14(1), 144.

Lim EY, et al. (2021) Potential and Realized Impact of Astroglia Ca2 + Dynamics on Circuit Function and Behavior. Frontiers in cellular neuroscience, 15, 682888.

Falcy BA, et al. (2020) Immunohistochemical amplification of mCherry fusion protein is necessary for proper visualization. MethodsX, 7, 100946.

Zhou X, et al. (2019) Extracellular adenosine and slow-wave sleep are increased after ablation of nucleus accumbens core astrocytes and neurons in mice. Neurochemistry international, 124, 256.

Li MM, et al. (2019) The Paraventricular Hypothalamus Regulates Satiety and Prevents Obesity via Two Genetically Distinct Circuits. Neuron, 102(3), 653.

Chen N, et al. (2016) Direct modulation of GFAP-expressing glia in the arcuate nucleus bi-directionally regulates feeding. eLife, 5.