

Resource Summary Report

Generated by [NIF](#) on Jul 30, 2026

pAAV-EF1a-DIO-hM3D(Gq)-mCherry

RRID:Addgene_50460

Type: Plasmid

Proper Citation

RRID:Addgene_50460

Plasmid Information

URL: <http://www.addgene.org/50460>

Proper Citation: RRID:Addgene_50460

Insert Name: hM3D(Gq)-mCherry

Organism: Homo sapiens

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-EF1a-DIO-hM3D(Gq)-mCherry

Relevant Mutation: See supplemental documents for DREADD mutations

Record Creation Time: 20220422T222258+0000

Record Last Update: 20260725T074804+0000

Ratings and Alerts

No rating or validation information has been found for pAAV-EF1a-DIO-hM3D(Gq)-mCherry.

No alerts have been found for pAAV-EF1a-DIO-hM3D(Gq)-mCherry.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 28 mentions in open access literature.

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

Li R, et al. (2025) Functional Roles of Gastrin-Releasing Peptide-Producing Neurons in the Suprachiasmatic Nucleus: Insights into Photic Entrainment and Circadian Regulation. The Journal of neuroscience : the official journal of the Society for Neuroscience, 45(25).

Li T, et al. (2025) A pontine center in descending pain control. Neuron, 113(11), 1789.

Montalban E, et al. (2025) Striatal astrocytes modulate behavioral flexibility and whole-body metabolism in mice. Nature communications, 16(1), 5417.

Yin K, et al. (2024) Tak1 licenses mitochondrial transfer from astrocytes to POMC neurons to maintain glucose and cholesterol homeostasis. Cell reports, 43(12), 114983.

Matsuda T, et al. (2024) Two parabrachial Cck neurons involved in the feedback control of thirst or salt appetite. Cell reports, 43(1), 113619.

Ramirez-Plascencia OD, et al. (2024) A hypothalamic circuit for circadian regulation of corticosterone secretion. Research square.

Kojima L, et al. (2024) Optimization of AAV vectors for transactivator-regulated enhanced gene expression within targeted neuronal populations. iScience, 27(6), 109878.

Huang-Hobbs E, et al. (2023) Remote neuronal activity drives glioma progression through SEMA4F. Nature, 619(7971), 844.

Calafate S, et al. (2023) Early alterations in the MCH system link aberrant neuronal activity and sleep disturbances in a mouse model of Alzheimer's disease. Nature neuroscience, 26(6), 1021.

Yang M, et al. (2023) Separate orexigenic hippocampal ensembles shape dietary choice by enhancing contextual memory and motivation. bioRxiv : the preprint server for biology.

Takahashi TM, et al. (2022) Optogenetic induction of hibernation-like state with modified human Opsin4 in mice. Cell reports methods, 2(11), 100336.

Willmore L, et al. (2022) Behavioural and dopaminergic signatures of resilience. *Nature*, 611(7934), 124.

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

Liu S, et al. (2022) Divergent brainstem opioidergic pathways that coordinate breathing with pain and emotions. *Neuron*, 110(5), 857.

Sheu SH, et al. (2022) A serotonergic axon-cilium synapse drives nuclear signaling to alter chromatin accessibility. *Cell*, 185(18), 3390.

Konishi Y, et al. (2021) Intravital Imaging Identifies the VEGF-TXA2 Axis as a Critical Promoter of PGE2 Secretion from Tumor Cells and Immune Evasion. *Cancer research*, 81(15), 4124.

Horio N, et al. (2021) Hunger enhances food-odour attraction through a neuropeptide Y spotlight. *Nature*, 592(7853), 262.

Chen Z, et al. (2021) Deficiency of ER Ca²⁺ sensor STIM1 in AgRP neurons confers protection against dietary obesity. *Cell reports*, 37(3), 109868.

Yiannakas A, et al. (2021) Parvalbumin interneuron inhibition onto anterior insula neurons projecting to the basolateral amygdala drives aversive taste memory retrieval. *Current biology : CB*, 31(13), 2770.

Yamada S, et al. (2020) Neuropeptide Y neurons in the nucleus accumbens modulate anxiety-like behavior. *Experimental neurology*, 327, 113216.