

Resource Summary Report

Generated by [NIF](#) on Sep 4, 2026

pcDNA5/FRT-HA-hM3D(Gq)

RRID:Addgene_45547

Type: Plasmid

Proper Citation

RRID:Addgene_45547

Plasmid Information

URL: <http://www.addgene.org/45547>

Proper Citation: RRID:Addgene_45547

Insert Name: hM3D (Gq)

Organism: Homo sapiens

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:17360345](#)

Vector Backbone Description: Backbone Marker:Invitrogen; Backbone Size:5059; Vector Backbone:pcDNA5/FRT; Vector Types:Mammalian Expression, Bacterial Expression; 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: pcDNA5/FRT-HA-hM3D(Gq)

Record Creation Time: 20220422T222235+0000

Record Last Update: 20260902T045520+0000

Ratings and Alerts

No rating or validation information has been found for pcDNA5/FRT-HA-hM3D(Gq).

No alerts have been found for pcDNA5/FRT-HA-hM3D(Gq).

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 16 mentions in open access literature.

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

Kawanabe-Kobayashi R, et al. (2026) Descending locus coeruleus noradrenergic signaling to spinal astrocyte subset is required for stress-induced mechanical pain hypersensitivity. *eLife*, 14.

Köhler I, et al. (2025) Chemogenetic activation of Gq signaling modulates dendritic development of cortical neurons in a time- and layer-specific manner. *Frontiers in cellular neuroscience*, 19, 1524470.

Tanaka K, et al. (2025) Direct Activity Measurement of Heterotrimeric Gi Proteins and Gq Protein By Effector Pulldown. *Bio-protocol*, 15(15), e5406.

Jain A, et al. (2025) G α q-Stimulated Gene Expression Is Insensitive to Bromo Extra Terminal Domain Inhibitors in HEK 293 Cells. *International journal of molecular sciences*, 26(18).

Nmarneh A, et al. (2024) TRPM5 activation depends on a synergistic effect of calcium and PKC phosphorylation. *Communications biology*, 7(1), 369.

Tanaka K, et al. (2024) Latrophilin-2 mediates fluid shear stress mechanotransduction at endothelial junctions. *The EMBO journal*, 43(15), 3175.

Kim YS, et al. (2023) Two-step structural changes in M3 muscarinic receptor activation rely on the coupled Gq protein cycle. *Nature communications*, 14(1), 1276.

Pétigny C, et al. (2022) Monitoring TRPC7 Conformational Changes by BRET Following GPCR Activation. *International journal of molecular sciences*, 23(5).

Kanehisa K, et al. (2022) Neuronal pentraxin 2 is required for facilitating excitatory synaptic inputs onto spinal neurons involved in pruriceptive transmission in a model of chronic itch. *Nature communications*, 13(1), 2367.

Cohen E, et al. (2019) GTL-1, a Calcium Activated TRPM Channel, Enhances Nociception. *Frontiers in pharmacology*, 10, 1567.

Zhou QG, et al. (2019) Chemogenetic silencing of hippocampal neurons suppresses epileptic neural circuits. *The Journal of clinical investigation*, 129(1), 310.

McDonough RC, et al. (2019) DREADD-based synthetic control of chondrocyte calcium signaling in vitro. *Journal of orthopaedic research : official publication of the Orthopaedic Research Society*, 37(7), 1518.

Vitali I, et al. (2018) Progenitor Hyperpolarization Regulates the Sequential Generation of Neuronal Subtypes in the Developing Neocortex. *Cell*, 174(5), 1264.

Mitew S, et al. (2018) Pharmacogenetic stimulation of neuronal activity increases myelination in an axon-specific manner. *Nature communications*, 9(1), 306.

Bocchi R, et al. (2017) Perturbed Wnt signaling leads to neuronal migration delay, altered interhemispheric connections and impaired social behavior. *Nature communications*, 8(1), 1158.

Kumar R, et al. (2017) Activation of transient receptor potential vanilloid 1 by lipoxygenase metabolites depends on PKC phosphorylation. *FASEB journal : official publication of the Federation of American Societies for Experimental Biology*, 31(3), 1238.