

Resource Summary Report

Generated by [NIF](#) on Sep 10, 2026

pcDNA3.1+/mit-2mutAEQ

RRID:Addgene_45539

Type: Plasmid

Proper Citation

RRID:Addgene_45539

Plasmid Information

URL: <http://www.addgene.org/45539>

Proper Citation: RRID:Addgene_45539

Insert Name: mit-2mutAEQ

Organism: jellyfish

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:22671130](#)

Vector Backbone Description: Backbone Marker:Invitrogen; Backbone Size:5300; Vector Backbone:pcDNA3.1+; Vector Types:Mammalian Expression; Bacterial Resistance:Ampicillin

Comments: Note that numbering of the aequorin mutations in this plasmid is relative to the valine at position 8 in the original sequence from Inouye et al., PNAS 82, 3154 (1985) PubMed ID: 3858813. When compared to this sequence (GenBank ID AAA27720.1) the mutations at N28L and D119A would correspond to N35L and D126A.

Plasmid Name: pcDNA3.1+/mit-2mutAEQ

Relevant Mutation: Asp119Ala and Asn28Leu

Record Creation Time: 20220422T222235+0000

Record Last Update: 20260905T075656+0000

Ratings and Alerts

No rating or validation information has been found for pcDNA3.1+/mit-2mutAEQ.

No alerts have been found for pcDNA3.1+/mit-2mutAEQ.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 5 mentions in open access literature.

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

Sakai Y, et al. (2025) Coral anthozoan-specific opsins employ a novel chloride counterion for spectral tuning. eLife, 14.

Sato K, et al. (2023) Mammalian type opsin 5 preferentially activates G14 in Gq-type G proteins triggering intracellular calcium response. The Journal of biological chemistry, 299(8), 105020.

Hagio H, et al. (2023) Optogenetic manipulation of Gq- and Gi/o-coupled receptor signaling in neurons and heart muscle cells. eLife, 12.

Koyanagi M, et al. (2022) High-performance optical control of GPCR signaling by bistable animal opsins MosOpn3 and LamPP in a molecular property-dependent manner. Proceedings of the National Academy of Sciences of the United States of America, 119(48), e2204341119.

Dong D, et al. (2019) Endoplasmic reticulum Ca²⁺ release causes Rieske iron-sulfur protein-mediated mitochondrial ROS generation in pulmonary artery smooth muscle cells. Bioscience reports, 39(12).