

Resource Summary Report

Generated by [NIF](#) on Sep 16, 2026

pAAV.CAG.hChR2(H134R)-mCherry.WPRE.SV40

RRID:Addgene_100054

Type: Plasmid

Proper Citation

RRID:Addgene_100054

Plasmid Information

URL: <http://www.addgene.org/100054>

Proper Citation: RRID:Addgene_100054

Insert Name: channelrhodopsin-2

Organism: C. reinhardtii

Bacterial Resistance: Ampicillin

Vector Backbone Description: Vector Backbone:pAAV; Vector Types:Mammalian Expression, AAV; Bacterial Resistance:Ampicillin

Comments: Penn Vector Core PV1959

Plasmid Name: pAAV.CAG.hChR2(H134R)-mCherry.WPRE.SV40

Relevant Mutation: H134R mutation in ChR2

Record Creation Time: 20220422T221446+0000

Record Last Update: 20260912T091334+0000

Ratings and Alerts

No rating or validation information has been found for pAAV.CAG.hChR2(H134R)-mCherry.WPRE.SV40.

No alerts have been found for pAAV.CAG.hChR2(H134R)-mCherry.WPRE.SV40.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 24 mentions in open access literature.

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

Zaccaria C, et al. (2026) Investigation of synaptic connectivity in functional in vitro neuronal assemblies. *Cell reports methods*, 6(1), 101265.

Vattino LG, et al. (2025) Primary auditory thalamus relays directly to cortical layer 1 interneurons. *iScience*, 28(8), 112652.

Yamawaki N, et al. (2025) Endopiriform neurons projecting to ventral CA1 are a critical node for recognition memory. *eLife*, 13.

Knapman FL, et al. (2025) Wild-type and engineered adeno-associated viral vectors produce comparable opsin expression and light-evoked responses in rat skeletal muscle. *Molecular therapy. Methods & clinical development*, 33(3), 101559.

Khandelwal N, et al. (2024) FOXP1 regulates the development of excitatory synaptic inputs onto striatal neurons and induces phenotypic reversal with reinstatement. *Science advances*, 10(18), eadm7039.

Zhong P, et al. (2024) Distinct and Convergent Alterations of Entorhinal Cortical Circuits in Two Mouse Models for Alzheimer's Disease and Related Disorders. *Journal of Alzheimer's disease : JAD*, 98(3), 1121.

Putman JN, et al. (2024) Pre- and Postsynaptic MEF2C Promotes Experience-Dependent, Input-Specific Development of Cortical Layer 4 to Layer 2/3 Excitatory Synapses and Regulates Activity-Dependent Expression of Synaptic Cell Adhesion Molecules. *The Journal of neuroscience : the official journal of the Society for Neuroscience*, 44(45).

Knapman FL, et al. (2023) Direct optogenetic activation of upper airway muscles in an acute model of upper airway hypotonia mimicking sleep onset. *Sleep*, 46(12).

Khandelwal N, et al. (2023) FOXP1 regulates the development of excitatory synaptic inputs onto striatal neurons and induces phenotypic reversal with reinstatement. *bioRxiv : the preprint server for biology*.

Ding L, et al. (2022) Juxtacellular opto-tagging of hippocampal CA1 neurons in freely moving mice. *eLife*, 11.

Niemann P, et al. (2022) Generation and Characterization of an Inducible Cx43 Overexpression System in Mouse Embryonic Stem Cells. *Cells*, 11(4).

Olszakier S, et al. (2022) A simplified Gibson assembly method for site directed mutagenesis by re-use of standard, and entirely complementary, mutagenesis primers. *BMC biotechnology*, 22(1), 10.

Wang Y, et al. (2021) A long-range, recurrent neuronal network linking the emotion regions with the somatic motor cortex. *Cell reports*, 36(12), 109733.

Credi C, et al. (2021) Fast Optical Investigation of Cardiac Electrophysiology by Parallel Detection in Multiwell Plates. *Frontiers in physiology*, 12, 692496.

Kim A, et al. (2021) Neural basis for regulation of vasopressin secretion by anticipated disturbances in osmolality. *eLife*, 10.

Naskar S, et al. (2021) Cell-type-specific recruitment of GABAergic interneurons in the primary somatosensory cortex by long-range inputs. *Cell reports*, 34(8), 108774.

Lee J, et al. (2021) FosGFP expression does not capture a sensory learning-related engram in superficial layers of mouse barrel cortex. *Proceedings of the National Academy of Sciences of the United States of America*, 118(52).

Zhang Z, et al. (2021) Experience-dependent weakening of callosal synaptic connections in the absence of postsynaptic FMRP. *eLife*, 10.

Zhang L, et al. (2020) Hyperactivated PTP1B phosphatase in parvalbumin neurons alters anterior cingulate inhibitory circuits and induces autism-like behaviors. *Nature communications*, 11(1), 1017.

Prager EM, et al. (2020) Dopamine Oppositely Modulates State Transitions in Striosome and Matrix Direct Pathway Striatal Spiny Neurons. *Neuron*, 108(6), 1091.