

Resource Summary Report

Generated by [NIF](#) on Sep 15, 2026

RGC-5

RRID:CVCL_4059

Type: Cell Line

Proper Citation

RRID:CVCL_4059

Cell Line Information

URL: https://web.expasy.org/cellosaurus/CVCL_4059

Proper Citation: RRID:CVCL_4059

Description: Cell line RGC-5 is a Transformed cell line with a species of origin Mus musculus (Mouse)

Sex: Male

Defining Citation: [PMID:11165366](#), [PMID:19443730](#), [PMID:23975727](#), [PMID:24021353](#), [PMID:24472671](#), [PMID:24664692](#), [PMID:29203899](#)

Comments: Problematic cell line: Misidentified. Originally thought to be of rat origin but found to be from mouse (PubMed=19443730; PubMed=24664692). Is probably identical to 661W (PubMed=23975727; PubMed=24021353). But the originator of the 661W cell is partially contesting this claim (PubMed=24472671)..
Group: Patented cell line.

Category: Transformed cell line

Organism: Mus musculus (Mouse)

Name: RGC-5

Synonyms: RGC5

Cross References: BTO:BTO_0005118, BioSample:SAMN03151607, TOKU-E:3594, Wikidata:Q54950255

ID: CVCL_4059

Hierarchy: cvcl_6240

Record Creation Time: 20220427T221458+0000

Record Last Update: 20260913T005859+0000

Ratings and Alerts

No rating or validation information has been found for RGC-5.

Warning: Problematic cell line: Misidentified. Originally thought to be of rat origin but found to be from mouse (PubMed=19443730; PubMed=24664692). Is probably identical to 661W (PubMed=23975727; PubMed=24021353). But the originator of the 661W cell is partially contesting this claim (PubMed=24472671).

Registration: International Cell Line Authentication Committee, Register of Misidentified Cell Lines; ICLAC-00472.

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Data and Source Information

Source: [Cellosaurus](#)

Usage and Citation Metrics

We found 117 mentions in open access literature.

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

Chang KH, et al. (2026) Multifunctional Catechol-Functionalized Cellulose Hydrogels for the Minimally Invasive Treatment of Acute Optic Nerve Injuries. Advanced healthcare materials, e71461.

Chang KH, et al. (2025) Minimally Invasive, High Transmittance, Adhesive and Antioxidative Hydrogel Complex for Treatments of Both Optic Neuropathy and Retinopathy. Advanced healthcare materials, 14(19), e2501583.

Pan J, et al. (2022) Scopoletin protects retinal ganglion cells 5 from high glucose-induced injury in a cellular model of diabetic retinopathy via ROS-dependent p38 and JNK signaling cascade. Central-European journal of immunology, 47(1), 20.

Xi X, et al. (2022) Acteoside attenuates hydrogen peroxide-induced injury of retinal ganglion cells via the CASC2/miR-155/mTOR axis. Annals of translational medicine, 10(1), 5.

Fan G, et al. (2022) Novel Small Molecule Positive Allosteric Modulator SPAM1 Triggers the Nuclear Translocation of PAC1-R to Exert Neuroprotective Effects through Neuron-

Restrictive Silencer Factor. International journal of molecular sciences, 23(24).

Sanchez M, et al. (2022) The Succinate Receptor SUCNR1 Resides at the Endoplasmic Reticulum and Relocates to the Plasma Membrane in Hypoxic Conditions. Cells, 11(14).

Xi X, et al. (2022) Acteoside protects retinal ganglion cells from experimental glaucoma by activating the PI3K/AKT signaling pathway via caveolin 1 upregulation. Annals of translational medicine, 10(6), 312.

Yu X, et al. (2022) Mechanism of LSD1 in oxygen-glucose deprivation/reoxygenation-induced pyroptosis of retinal ganglion cells via the miR-21-5p/NLRP12 axis. BMC neuroscience, 23(1), 63.

Mu L, et al. (2022) Mechanisms of Qing-Gan Li-Shui Formulation in Ameliorating Primary Open Angle Glaucoma: An Analysis Based on Network Pharmacology. Evidence-based complementary and alternative medicine : eCAM, 2022, 8336131.

Grossini E, et al. (2022) Membrane Blue Dual Protects Retinal Pigment Epithelium Cells/Ganglion Cells-Like through Modulation of Mitochondria Function. Biomedicines, 10(11).

Fan G, et al. (2022) Positive allosteric regulation of PAC1-R up-regulates PAC1-R and its specific ligand PACAP. Acta biochimica et biophysica Sinica, 54(5), 657.

Noueihed B, et al. (2021) Mesenchymal Stromal Cells Promote Retinal Vascular Repair by Modulating Sema3E and IL-17A in a Model of Ischemic Retinopathy. Frontiers in cell and developmental biology, 9, 630645.

Wang N, et al. (2021) Berberine improves insulin-induced diabetic retinopathy through exclusively suppressing Akt/mTOR-mediated HIF-1 α /VEGF activation in retina endothelial cells. International journal of biological sciences, 17(15), 4316.

Yu R, et al. (2021) Blue light induces the nuclear translocation of neuropeptide receptor PAC1-R associated with the up-regulation of PAC1-R its own in reactive oxygen species associated way. Biochimica et biophysica acta. General subjects, 1865(6), 129884.

Xu M, et al. (2021) A novel mutation in PCK2 gene causes primary angle-closure glaucoma. Aging, 13(19), 23338.

Du HY, et al. (2021) Ligustrazine induces viability, suppresses apoptosis and autophagy of retinal ganglion cells with ischemia/reperfusion injury through the PI3K/Akt/mTOR signaling pathway. Bioengineered, 12(1), 507.

Xiong YC, et al. (2021) 17 β -Oestradiol Attenuates the Photoreceptor Apoptosis in Mice with Retinitis Pigmentosa by Regulating N-myc Downstream Regulated Gene 2 Expression. Neuroscience, 452, 280.

Ye MJ, et al. (2021) Resveratrol acts via the mitogen-activated protein kinase (MAPK) pathway to protect retinal ganglion cells from apoptosis induced by hydrogen peroxide. Bioengineered, 12(1), 4878.

Pal S, et al. (2021) Inflammation and apoptosis, two key events induced by hyperglycemia mediated reactive nitrogen species in RGC-5 cells. *Life sciences*, 279, 119693.

Zhao N, et al. (2021) Baicalin suppresses glaucoma pathogenesis by regulating the PI3K/AKT signaling in vitro and in vivo. *Bioengineered*, 12(2), 10187.