

Resource Summary Report

Generated by [NIF](#) on Aug 9, 2026

H9c2(2-1)

RRID:CVCL_0286

Type: Cell Line

Proper Citation

RRID:CVCL_0286

Cell Line Information

URL: https://web.expasy.org/cellosaurus/CVCL_0286

Proper Citation: RRID:CVCL_0286

Description: Cell line H9c2(2-1) is a Spontaneously immortalized cell line with a species of origin *Rattus norvegicus* (Rat)

Sex: Sex unspecified

Defining Citation: [PMID:943302](#), [PMID:1683272](#), [PMID:17662623](#), [PMID:21082279](#)

Category: Spontaneously immortalized cell line

Organism: *Rattus norvegicus* (Rat)

Name: H9c2(2-1)

Synonyms: H9c2 (2-1), H9c2, H9C2

Cross References: BTO:BTO_0001879, CLO:CLO_0003614, MCCL:MCC:0000176, CLDB:cl1558, CLDB:cl5196, AddexBio:C0031002/5017, ATCC:CRL-1446, BCRC:60096, BCRJ:0098, CCRID:1101RAT-PUMC000219, CCRID:3101RATGNR5, CCRID:4201RAT-CCTCC00606, CCTCC:GDC0606, ChEMBL-Cells:ChEMBL3307653, ChEMBL-Targets:ChEMBL614576, CLS:305203, ECACC:88092904, GEO:GSM1513690, IZSLER:BS CL 151, KCLB:21446, Lonza:1016, NCBI_Iran:C585, PubChem_Cell_line:CVCL_0286, Ubigene:YC-A009, Wikidata:Q9363821

ID: CVCL_0286

Record Creation Time: 20220427T220225+0000

Record Last Update: 20260809T000546+0000

Ratings and Alerts

No rating or validation information has been found for H9c2(2-1).

No alerts have been found for H9c2(2-1).

Data and Source Information

Source: [Cellosaurus](#)

Usage and Citation Metrics

We found 1642 mentions in open access literature.

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

Zhao X, et al. (2026) Apigenin Protects H9c2 Cells Against Oxygen-Glucose Deprivation/Reperfusion Injury by Regulating Autophagy via the HIF-1 α /miR-20a Axis. *Pharmacology research & perspectives*, 14(2), e70224.

Wen X, et al. (2026) A Nanoparticle-Integrated Complete Manufacturing Pipeline of Chemically Engineered Exosomes. *Advanced science* (Weinheim, Baden-Wurttemberg, Germany), 13(32), e16075.

Quan Y, et al. (2026) An Intelligent Magneto-Mechanical Platform for Cellular Sensing in 3D Microenvironments. *Advanced science* (Weinheim, Baden-Wurttemberg, Germany), 13(17), e19132.

Tan ZH, et al. (2026) Four New Phenolic Glycosides From the Roots of *Ilex pubescens* and Their Cardioprotective Effects. *Chemistry & biodiversity*, 23(3), e03550.

Dong S, et al. (2026) Nicotinamide adenine dinucleotide inhibits the production of reactive oxygen species and myocardial cell pyroptosis caused by hypoxia/re-oxygenation injury. *World journal of cardiology*, 18(1), 114108.

Yan X, et al. (2026) AnnoNet-TCMs: An annotation network-driven discovery of novel active compounds and mechanisms in traditional Chinese medicine. *Journal of advanced research*.

Fan L, et al. (2026) Breaking the Heat Tolerance Response: The Crucial Role of MFAP4 in Combating Heat-Induced Cardiac Injury. *FASEB journal : official publication of the Federation of American Societies for Experimental Biology*, 40(10), e71728.

Wedan RJ, et al. (2026) Cells Engage Endogenous Malonate Synthesis to Drive Mitochondrial Metabolism. *bioRxiv : the preprint server for biology*.

Zhang A, et al. (2026) Propofol and Salvianolic Acid synergistically Attenuate LPS-Induced Myocardial Pyroptosis in Diabetic Mice via the SIRT1/HMGB1 Pathway. *Mediators of inflammation*, 2026(1), e6298056.

Yan Y, et al. (2026) Mitochondrial protection role of oxidoreductase-like domain containing 1 in myocardial cells under hypoxia. *Medical gas research*, 16(2), 116.

Liu J, et al. (2026) Electron transfer flavoprotein subunit beta suppresses hypoxia/reoxygenation-induced mitochondrial dysfunction and apoptosis in cardiomyocytes. *The Journal of international medical research*, 54(5), 3000605261444866.

Han M, et al. (2026) Imperatorin ameliorates myocardial ischemia-reperfusion injury by inhibiting endoplasmic reticulum stress-mediated apoptosis via the PI3K/AKT/Nrf2 pathway. *Journal of cell communication and signaling*, 20(2), e70084.

Beerwala FA, et al. (2026) Multi-Target Cardioprotective Potential of Garcinia indica Choisy in Olanzapine-Induced Cardiometabolic Dysregulation: Evidence From Computational and Experimental Insights in H9c2(2-1) Cells. *Chemistry & biodiversity*, 23(7), e03806.

Mansouri Z, et al. (2026) Rosmarinic Acid-Treated Exosomes Modulate TGF- β 1/Smad3 Signaling to Alleviate Cardiac Fibrosis in an In Vitro/In Vivo Model. *FASEB journal : official publication of the Federation of American Societies for Experimental Biology*, 40(3), e71358.

Inchausti L, et al. (2026) Single-cell RNA-seq reveals trans-sialidase-like superfamily gene expression heterogeneity in *Trypanosoma cruzi* populations. *eLife*, 14.

Wang S, et al. (2026) Oral Bioinspired Peroxisome-Engineered Probiotics for Modulating Gut Microbiota Homeostasis and Alleviating Cardiac Chemotherapy Toxicity. *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*, 13(37), e19344.

Zhang Y, et al. (2026) FTO Regulates Autophagy and Energy Metabolism in Sepsis-Induced Cardiomyopathy: Insights From Integrated Transcriptome and Proteome Analysis. *FASEB journal : official publication of the Federation of American Societies for Experimental Biology*, 40(11), e71985.

Zhao R, et al. (2026) TRIM40 Drives Pathological Cardiac Hypertrophy and Heart Failure via Ubiquitination of PKN2. *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*, 13(17), e21337.

Liu C, et al. (2026) Microfluidic Modeling of Macrophage-Induced Cardiac Inflammation Using NF- κ B Reporter Cardiomyocytes. *Advanced healthcare materials*, 15(17), e03202.

Norden PR, et al. (2026) Functional partitioning of lipoic acid decouples cellular abundance from mitochondrial utilization. *bioRxiv : the preprint server for biology*.