

Resource Summary Report

Generated by [RRID](#) on Sep 6, 2026

C2C12

RRID:CVCL_0188

Type: Cell Line

Proper Citation

RRID:CVCL_0188

Cell Line Information

URL: https://web.expasy.org/cellosaurus/CVCL_0188

Proper Citation: RRID:CVCL_0188

Description: Cell line C2C12 is a Spontaneously immortalized cell line with a species of origin *Mus musculus* (Mouse)

Sex: Female

Defining Citation: [PMID:563524](#), [PMID:8023908](#), [PMID:15596414](#), [PMID:19298647](#), [PMID:19350625](#), [PMID:19656770](#), [PMID:20635352](#), [PMID:22020321](#), [PMID:24735950](#), [PMID:25277546](#), [PMID:25894527](#)

Comments: Characteristics: Capable, upon starvation, of differentiating into contractile myotubes that express muscle-specific proteins., Part of: ENCODE project mouse cell lines.

Category: Spontaneously immortalized cell line

Organism: *Mus musculus* (Mouse)

Name: C2C12

Synonyms: C2c12, C2-C12, C12

Cross References: BTO:BTO_0000165, CLO:CLO_0002071, CLO:CLO_0050871, EFO:EFO_0001098, MCCL:MCC:0000079, CLDB:cl563, CLDB:cl564, CLDB:cl5172, Abcam:ab279976, AddexBio:P0028001/4665, ATCC:CRL-1772, BCRC:60083, BCRJ:0058, BioGRID_ORCS_Cell_line:1564, CCRID:1101MOU-PUMC000099, CCRID:3101MOUGNM26, CCRID:3101MOUSCSP505, CCRID:4201MOU-CCTCC00175, CCTCC:GDC0175, ChEMBL-Cells:ChEMBL3308003, ChEMBL-Targets:ChEMBL612655, CLS:400476, DSMZ:ACC-565, DSMZCellDive:ACC-565, ECACC:91031101, ENCODE:ENCBS124ENC, ENCODE:ENCBS299ZOZ, ENCODE:ENCBS981MXJ, FCS-

free:221-17-457-3-4-3, FCS-free:221-17-505-3-4-12, FCS-free:221-21-488-3-4-12, FCS-free:221-5-486-3-3, FCS-free:221-5-527-1-3-3, GEO:GSE30192, GEO:GSM915162, GEO:GSM915166, GEO:GSM915174, GEO:GSM915179, GEO:GSM915182, GEO:GSM915186, GEO:GSM915188, GEO:GSM918408, GEO:GSM918410, GEO:GSM918411, GEO:GSM918415, GEO:GSM918417, GEO:GSM918422, GEO:GSM1354755, IZSLER:BS CL 148, KCB:KCB 2012115YJ, Lonza:692, MetaboLights:MTBLS127, NCBI_Iran:C521, PRIDE:PXD000022, PRIDE:PXD000288, PRIDE:PXD000328, PRIDE:PXD000589, PRIDE:PXD003211, PRIDE:PXD004151, PRIDE:PXD004960, PRIDE:PXD012986, PRIDE:PXD017465, PRIDE:PXD050867, PRIDE:PXD050903, PubChem_Cell_line:CVCL_0188, RCB:RCB0987, TOKU-E:728, Ubigene:YC-A010, Wikidata:Q5008075

ID: CVCL_0188

Hierarchy: cvcl_6812

Record Creation Time: 20220427T215433+0000

Record Last Update: 20260905T174501+0000

Ratings and Alerts

No rating or validation information has been found for C2C12.

No alerts have been found for C2C12.

Data and Source Information

Source: [Cellosaurus](#)

Usage and Citation Metrics

We found 5723 mentions in open access literature.

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

Zhang Y, et al. (2026) Mechanism by which hydrogen-rich water mitigates exercise-induced fatigue: activation of the immunoresponsive gene 1-itaconate/nuclear factor erythroid 2-related factor 2/heme oxygenase-1 pathway. Medical gas research, 16(1), 26.

Norris AM, et al. (2026) Protocol to assess myogenic effects of 3T3-L1 and primary murine fibro-adipogenic progenitors on C2C12 myoblast differentiation. STAR protocols, 7(1), 104332.

Ono Y, et al. (2026) Sepsis-associated skeletal muscle wasting is ameliorated by pharmacological inhibition of the STAT3 signaling pathway in mice. Scientific reports, 16(1), 5008.

Machado IF, et al. (2026) Oxidative phosphorylation and mitochondrial dynamics are regulated by Sestrin2 to maintain cellular function. The FEBS journal.

Ren P, et al. (2026) Sustained release PLGA microspheres loaded with a bone-affinity Bmp2 enhance fracture healing and mitigate heterotopic ossification. *Bioactive materials*, 61, 796.

Mori K, et al. (2026) Muscle-derived Mimecan regulates hypothalamus-brown adipose tissue communication and promotes health and lifespan in mice. *Cell metabolism*, 38(7), 1425.

Pan Y, et al. (2026) Engineering novel AAV capsids by broadly attenuated and subsequent muscle-specific tropism in mice and NHPs. *Molecular therapy. Advances*, 34(2), 201725.

Liu R, et al. (2026) Red Jujube Juice Fermented with *Pediococcus pentosaceus* and Its Antioxidant Activity in C2C12 Cells. *Foods (Basel, Switzerland)*, 15(11).

Zhao J, et al. (2026) Transcriptomic Analysis of Pleiotropic Effects of Scandium Chloride on C2C12 Myoblasts. *Toxics*, 14(7).

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

Brunner JS, et al. (2026) Aspartate availability drives differential engagement of the malate-aspartate shuttle. *Molecular cell*, 86(5), 954.

Shao X, et al. (2026) Atrophic Skeletal Muscle-Derived Extracellular Vesicles Transfer miR-125a-5p to Inhibit Bone Formation in Osteoporosis during Aging. *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*, 13(25), e15362.

Yu X, et al. (2026) miR-339-5p impairs myogenic proliferation and differentiation by repressing contractile gene programs in skeletal muscle. *American journal of physiology. Cell physiology*, 331(2), C425.

Chen Y, et al. (2026) ERLIN2-Ca²⁺-CREB signaling coordinates circadian timing via CRY1/CRY2 feedback. *FEBS letters*, 600(9), 1386.

Zeng J, et al. (2026) KLF5 Activation Promotes Malignant Transformation to Drive Development of Lung Squamous Cell Carcinoma. *Cancer research*, 86(7), 1622.

Karim M, et al. (2026) Early-life NAD⁺ deficiency programs skeletal muscle aging by sustained suppression of hyaluronic acid synthesis beginning in childhood. *Cell reports*, 45(2), 116912.

Xia Q, et al. (2026) Exercise-related microRNAs in *Caenorhabditis elegans* regulate calcium homeostasis and mitochondrial dynamics: Conserved pathways, divergent microRNAs. *The FEBS journal*.

Nappi A, et al. (2026) Pik3ip1 mediates thyroid hormone-dependent regulation of the PI3K/Akt/mTOR axis in muscle atrophy. *Molecular metabolism*, 111, 102413.

Bae SE, et al. (2026) Macrophage-Myocyte Cross Talk Induces M1 Polarization and Inflammatory Cytokine Production During Cancer Cachexia. *Mediators of inflammation*, 2026(1), e6461737.

Liao L, et al. (2026) TRIM72 alleviates skeletal muscle atrophy by modulating mt-dsRNA/RIG-I signaling. *Metabolism: clinical and experimental*, 183, 156696.