

Resource Summary Report

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MC3T3-E1

RRID:CVCL_0409

Type: Cell Line

Proper Citation

RCB Cat# RCB1126, RRID:CVCL_0409

Cell Line Information

URL: https://web.expasy.org/cellosaurus/CVCL_0409

Proper Citation: RCB Cat# RCB1126, RRID:CVCL_0409

Description: Cell line MC3T3-E1 is a Spontaneously immortalized cell line with a species of origin *Mus musculus* (Mouse)

Sex: Sex unspecified

Defining Citation: [PMID:6826647](#), [PMID:8612673](#), [PMID:10352097](#), [PMID:11136541](#), [PMID:12638602](#), [PMID:25277546](#), [PMID:37712227](#)

Comments: Anecdotal: Have been flown in space on shuttle flights STS-56, STS-76, STS-81 and STS-84 to study growth and differentiation in microgravity (PubMed=8612673; PubMed=12638602)., Group: Space-flown cell line (cellonaut).

Category: Spontaneously immortalized cell line

Organism: *Mus musculus* (Mouse)

Name: MC3T3-E1

Synonyms: Mc3T3-E1, MC3T3E1, MC-3T3-E1, MC 3T3-E1

Cross References: BTO:BTO_0001957, CLO:CLO_0007582, CLO:CLO_0050208, MCCL:MCC:0000303, CLDB:cl40, ATCC:CRL-2953, CCRID:1101MOU-PUMC000012, CCTCC:GDC0188, ChEMBL-Cells:ChEMBL4295391, ChEMBL-Targets:ChEMBL4296463, CLS:305187, DSMZ:ACC-210, DSMZCellDive:ACC-210, ECACC:99072810, FCS-free:185-5-353-1-3-3, Lonza:521, PubChem_Cell_line:CVCL_0409, RCB:RCB1126, Wikidata:Q54904201

ID: CVCL_0409

Vendor: RCB

Catalog Number: RCB1126

Hierarchy: cvcl_0d74

Record Creation Time: 20220427T220749+0000

Record Last Update: 20260829T234550+0000

Ratings and Alerts

No rating or validation information has been found for MC3T3-E1.

Warning: Discontinued: ATCC; CRL-2953

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Data and Source Information

Source: [CelloSaurus](#)

Usage and Citation Metrics

We found 1245 mentions in open access literature.

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

Surboy MDC, et al. (2026) Single-dose intrapalatal injection of erythromycin-loaded microparticles mitigates periodontitis-induced alveolar bone loss and enhances bone regeneration. International journal of pharmaceutics, 699, 126995.

Xie X, et al. (2026) Early Radial Extracorporeal Shockwave Stimulation on Proximal Tibial Circular Osteotomy Site Enhanced Heterotopic Skin Wound Healing via Small Extracellular Vesicles. Advanced science (Weinheim, Baden-Wurttemberg, Germany), e17257.

Luo R, et al. (2026) Liposomal Quercetin-Loaded Biomimetic Scaffolds Manage Mechanical Overload in Maxillofacial Regeneration by Stabilizing the β -Actin/YAP Mechanosensing Axis. Advanced healthcare materials, 15(22), e05818.

Chen C, et al. (2026) Targeting integrin α V β 3-Ptgs2-mTOR signaling rescues bone formation in osteoporosis: from molecular mechanism toward therapy. Cellular & molecular biology letters, 31(1), 17.

Wu J, et al. (2026) Targeting a Myeloid-Regulatory B Cell Network Reverses Immune Paralysis in Periprosthetic Joint Infections. Advanced science (Weinheim, Baden-Wurttemberg, Germany), e76149.

Zhang T, et al. (2026) A remove-remodel-repair strategy enabled by a spatiotemporally controlled hydrogel for integrative osteosarcoma therapy. Biomaterials, 336, 124484.

- Wang HL, et al. (2026) The Osteoblastic Microenvironment Determines the Fate of Breast Cancer Cells Disseminated in the Bone Marrow. *Advanced science* (Weinheim, Baden-Wurttemberg, Germany), 13(22), e09980.
- Luo R, et al. (2026) Mechanism of YAP-Mediated Regulation of Osteogenic Differentiation via Cell Adhesion in a Mechanical Stimulus-Icariin Coupled Environment. *Advanced healthcare materials*, 15(15), e05446.
- Yin C, et al. (2026) Targeted Biomimetic Stem Cell Membrane-Exosome Composite Delivery System for the Treatment of Bone Defects. *ACS applied materials & interfaces*, 18(17), 24009.
- Zhang F, et al. (2025) The ESCRT protein CHMP5 restricts bone formation by controlling endolysosome-mitochondrion-mediated cell senescence. *eLife*, 13.
- Binet F, et al. (2025) Exploring the molecular cargos associated with extracellular vesicles extracted from bone tissue to identify novel players in osteoblast function. *American journal of physiology. Cell physiology*, 329(5), C1521.
- Yang S, et al. (2025) A Novel Nanozyme-based Coordination Compound for Synergistic Periprosthetic Joint Infection Treatment and Bone Repair. *Advanced healthcare materials*, e02379.
- Huo Y, et al. (2025) DEC1 promotes breast cancer bone metastasis through transcriptional activation of CXCR4. *Journal of biomedical research*, 39(5), 478.
- Hayashi K, et al. (2024) Cell-cell contact-dependent secretion of large-extracellular vesicles from EFN^Bhigh cancer cells accelerates peritoneal dissemination. *British journal of cancer*, 131(6), 982.
- Yue B, et al. (2024) WTAP increases BMP2 expression to promote osteoblast differentiation and inhibit osteoblast senescence via m6A methylation of Sp1. *Molecular genetics and genomics : MGG*, 299(1), 109.
- Sirisereephap K, et al. (2024) A novel macrolide-Del-1 axis to regenerate bone in old age. *iScience*, 27(2), 108798.
- Wang G, et al. (2023) Mechanically conditioned cell sheets cultured on thermo-responsive surfaces promote bone regeneration. *Biomaterials translational*, 4(1), 27.
- Abrão SMS, et al. (2023) Cytotoxicity and genotoxicity of Bio-C Repair, Endosequence BC Root Repair, MTA Angelus and MTA Repair HP. *Brazilian dental journal*, 34(2), 14.
- Jaramillo J, et al. (2023) Oxaloacetate enhances and accelerates regeneration in young mice by promoting proliferation and mineralization. *Frontiers in cell and developmental biology*, 11, 1117836.
- Sanz-Horta R, et al. (2023) Polycaprolactone with multiscale porosity and patterned surface topography prepared using sacrificial 3D printed moulds: Towards tailor-made scaffolds. *Biomaterials advances*, 151, 213465.