Resource Summary Report

Generated by dkNET on Aug 25, 2026

MLO-Y4

RRID:CVCL_M098
Type: Cell Line

Proper Citation

RRID:CVCL_M098

Cell Line Information

URL: https://web.expasy.org/cellosaurus/CVCL_M098

Proper Citation: RRID:CVCL_M098

Description: Cell line MLO-Y4 is a Transformed cell line with a species of origin Mus musculus (Mouse)

Sex: Sex unspecified

Defining Citation: PMID:9421234, PMID:10084404, PMID:12412815, PMID:16738320, PMID:22130923

Comments: Miscellaneous: STR profile from personal communication of Yi, Lan., Characteristics: Useful to study effects of fluid flow and substrate stretching on activation of osteocyte-specific signaling pathways (Kerafast=EKC002)., Group: Space-flown cell line (cellonaut)., Group: Patented cell line.

Category: Transformed cell line

Organism: Mus musculus (Mouse)

Name: MLO-Y4

Synonyms: MLOY4, Murine Long bone Osteocyte-Y4

Cross References: BTO:BTO_0005489, EFO:EFO_0005394, GEO:GSM1520095, GEO:GSM1520096, GEO:GSM1520097, GEO:GSM1520098, GEO:GSM1520099, GEO:GSM1520100, GEO:GSM1520101, GEO:GSM1520102, GEO:GSM1520103, GEO:GSM1520104, GEO:GSM1520105, GEO:GSM1520106, Kerafast:EKC002, Lonza:166, Ubigene:YC-C037, Wikidata:Q54905979

ID: CVCL_M098

Record Creation Time: 20220427T220812+0000

Record Last Update: 20260815T234632+0000

Ratings and Alerts

No rating or validation information has been found for MLO-Y4.

Warning: Discontinued: ATCC; CRL-12161
Miscellaneous: STR profile from personal communication of Yi, Lan., Characteristics: Useful to study effects of fluid flow and substrate stretching on activation of osteocyte-specific signaling pathways (Kerafast=EKC002)., Group: Space-flown cell line (cellonaut)., Group: Patented cell line.

Data and Source Information

Source: Cellosaurus

Usage and Citation Metrics

We found 150 mentions in open access literature.

Listed below are recent publications. The full list is available at dkNET .

Guo Y, et al. (2025) Mechanical Loading Induces NRF2 Nuclear Translocation to Epigenetically Remodel Oxidative Stress Defense in Osteocytes. Antioxidants (Basel, Switzerland), 14(3).

Anloague A, et al. (2025) A novel CCL3-HMGB1 signaling axis regulating osteocyte RANKL expression in multiple myeloma. Haematologica, 110(4), 952.

Seaman K, et al. (2025) Osteocytes under Mechanical Loading Regulate PC-3 Cancer Cell-Mineral Interactions during Early-Stage Metastasis to Bone. Advanced biology, 9(12), e00379.

Riquelme MA, et al. (2024) Antibody-activation of connexin hemichannels in bone osteocytes with ATP release suppresses breast cancer and osteosarcoma malignancy. Cell reports, 43(7), 114377.

Yee CS, et al. (2024) The osteocytic actions of glucocorticoids on bone mass, mechanical properties, or perilacunar remodeling outcomes are not rescued by PTH(1-34). Frontiers in endocrinology, 15, 1342938.

Hua R, et al. (2024) Connexin hemichannels drive lactation-induced osteocyte acidification and perilacunar-canalicular remodeling. Cell reports, 43(7), 114363.

Zhang B, et al. (2024) Protocol for evaluating the effects of large gradient high magnetic fields on osteocyte function. STAR protocols, 5(3), 103186.

Yuan J, et al. (2023) PINK1-mediated mitophagy contributes to glucocorticoid-induced cathepsin K production in osteocytes. Journal of orthopaedic translation, 38, 229.

Puts R, et al. (2023) Focused Low-Intensity Pulsed Ultrasound (FLIPUS) Mitigates Apoptosis of MLO-Y4 Osteocyte-like Cells. Bioengineering (Basel, Switzerland), 10(3).

Zhang S, et al. (2023) Astragalus polysaccharide ameliorates steroid-induced osteonecrosis of the femoral head by regulating miR-200b-3p-mediated Wnt/?-catenin signaling pathway via inhibiting SP1 expression : Astragalus polysaccharide regulates SONFH via SP1. BMC musculoskeletal disorders, 24(1), 369.

Hasegawa T, et al. (2023) Evocalcet Rescues Secondary Hyperparathyroidism-driven Cortical Porosity in CKD Male Rats. Endocrinology, 164(4).

Aobulikasimu A, et al. (2023) SIRT6-PAI-1 axis is a promising therapeutic target in aging-related bone metabolic disruption. Scientific reports, 13(1), 7991.

Jiao Z, et al. (2023) SOST gene suppression stimulates osteocyte Wnt/?-catenin signaling to prevent bone resorption and attenuates particle-induced osteolysis. Journal of molecular medicine (Berlin, Germany), 101(5), 607.

Wei L, et al. (2023) Resveratrol protects osteocytes against oxidative stress in ovariectomized rats through AMPK/JNK1-dependent pathway leading to promotion of autophagy and inhibition of apoptosis. Cell death discovery, 9(1), 16.

Liu X, et al. (2023) Glucose- and glutamine-dependent bioenergetics sensitize bone mechanoresponse after unloading by modulating osteocyte calcium dynamics. The Journal of clinical investigation, 133(3).

Wang Z, et al. (2023) Inflammation produced by senescent osteocytes mediates age-related bone loss. Frontiers in immunology, 14, 1114006.

Shimizu N, et al. (2023) Tension force causes cell cycle arrest at G2/M phase in osteocyte-like cell line MLO-Y4. Heliyon, 9(2), e13236.

Luo Y, et al. (2023) CHIR99021-Treated Osteocytes with Wnt Activation in 3D-Printed Module Form an Osteogenic Microenvironment for Enhanced Osteogenesis and Vasculogenesis. International journal of molecular sciences, 24(6).

Zhang B, et al. (2023) Magneto-mechanical stimulation modulates osteocyte fate via the ECM-integrin-CSK axis and wnt pathway. iScience, 26(8), 107365.

Donmez BO, et al. (2022) Calcium?dependent activation of PHEX, MEPE and DMP1 in osteocytes. Molecular medicine reports, 26(6).