

Other species and cell types compatible with PromoCell media

Fibroblast Growth Media (+ modifications)
Chondrocyte Growth Medium (+ modifications)
Hematopoietic Progenitor Expansion Medium
Osteoblast Growth Medium
Osteoblast Mineralization Medium
Preadipocyte/Adipocyte Media (+ modifications)
Pericyte Growth Medium (+ modifications)
Mesenchymal Stem Cell Media (+ modifications)



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Fibroblast Growth Medium (+ modifications): C-23010

| Cell type used | Reference |
|---|---|
| Primary human myofibroblast-like cells, differentiated from CD133 ⁺ cord blood cells | Sodian et al.; Ann Thorac Surg. 2010 Mar; 89(3): 819–828 |
| Primary porcine left ventricular myocardial fibroblasts | Mukherjee et al.; Circulation. 2010 Jul 6; 122(1): 20–32 |
| | Eckhouse et al.; J Thorac Cardiovasc Surg. 2013 Jan; 145(1): 267–275 |
| Primary sheep cardiac fibroblasts (from left ventricular myocardium) | Dixon et al.; Circulation. 2011 Sep 13; 124(11 Suppl): S35–45 |
| Primary feline corneal fibroblasts (domestic short hair cat) | Huxlin et al.; PLoS One. 2013 Aug 5; 8(8): e70785 |
| | Jeon et al.; Sci Rep. 2018 Aug 28; 8(1): 12945 |
| | Jeon et al.; Invest Ophthalmol Vis Sci. 2022 Apr 1; 63(4): 2 |
| Primary rat dermal fibroblasts | Oki et al.; Monoclon Antib Immunodiagn Immunother. 2015 Dec; 34(6): 396–403 |
| Primary murine fibroblasts from descending thoracic aorta | Jones et al.; J Thorac Cardiovasc Surg. 2010 Sep; 140(3): 653–659 |
| Primary murine cardiac fibroblasts | Michel et al.; JCI Insight. 2020 Nov 19; 5(22): e139910 |
| Hs27 (human foreskin fibroblast cell line; ATCC CRL-1634) | Fearnley et al.; Elife. 2019 Mar 29; 8: e44597 |
| GM03813 (human fibroblast cell line from a donor with SMA type II) | Pao et al.; Mol Ther. 2014 Apr; 22(4): 854–861 |
| NIH3T3 (murine fibroblast cell line) | Okumura et al.; Sci Rep. 2017 Sep 11; 7(1): 11208 |
| Human TERT fibroblasts | Lorat et al.; Int J Mol Sci. 2021 Jul 16; 22(14): 7638 |

Fibroblast Growth Medium 2 (+ modifications): C-23020

| Cell type used | Reference |
|---|---|
| Primary rhesus monkey fibroblast from skin | Scholl et al.; Parasit Vectors. 2016 Jul 8; 9(1): 394 |
| Cancer-associated human fibroblasts derived from oral squamous cell carcinoma | Pape et al.; Br J Cancer. 2020 Sep; 123(7): 1178–1190 |
| | Sekiguchi et al.; Cancers. 2023 Aug 28; 15(17): 4303 |
| Primary dermal fibroblasts from rat | Shaw et al.; PLoS Biol. 2017 Dec 18; 15(12): e2004086 |
| Primary dermal fibroblasts from dog | Shaw et al.; PLoS Biol. 2017 Dec 18; 15(12): e2004086 |

| Cell type used | Reference |
|---|--|
| Primary murine fibroblasts | Akerman et al.; J Am Heart Assoc. 2019 Jan 8; 8(1): e010332 |
| | Akerman et al.; J Am Heart Assoc. 2021 Aug 17; 10(16): e019862 |
| | Moore et al.; J Cardiovasc Dev Dis. 2022 Feb 17; 9(2): 62 |
| MRC-5 (human diploid fetal lung fibroblast cell line; ATCC CCL-171) | Latorre et al.; BMC Cell Biol. 2017 Oct 17; 18(1): 31 |
| WI-38 (human diploid lung fibroblast cell line; ATCC CCL-75) | Huang et al.; Hum Mol Genet. 2023 Jun 5; 32(12): 2016–2031 |

Fibroblast Growth Medium 3 (+ modifications): C-23025

| Cell type used | Reference |
|--|---|
| iPSC-derived human cardiac fibroblasts | Soussi et al.; Biol Direct. 2023 Jul 27; 18(1): 41 |
| | Maione et al.; Sci Rep. 2023 Sep 27; 13(1): 16179 |
| | Windt et al.; Biochem Biophys Res Commun. 2023 Nov 12; 681: 200–211 |
| | Kraszewska et al.; Mol Ther. 2024 Jan 3; 32(1): 84–102 |
| | Cumberland et al.; F1000 Res. 2024 Feb 12; 12: 1224 |
| | Lock et al.; Cell Rep. 2024 Jun 25; 43(6): 114302 |
| | Arslan et al.; Curr Protoc. 2024 Jul; 4(7): e1097 |
| Primary cardiac fibroblasts from rat | Martin et al.; Sci Rep. 2019 Dec 6; 9(1): 18545 |
| Primary murine cardiac fibroblasts | Chavkin et al.; J Am Heart Assoc. 2021 Jul 6; 10(13): e019904 |

Chondrocyte Growth Medium (+ modifications): C-27101

| Cell type used | Reference |
|--|--|
| Primary human costal chondrocytes from patients with pectus carinatum and pectus excavatum | Asmar et al.; Exp Mol Pathol. 2019 Feb; 106: 27–33 |

Hematopoietic Progenitor Expansion Medium XF (+ modifications): C-28021

| Cell type used | Reference |
|----------------------------------|---|
| Primary murine bone marrow cells | Hashimoto et al.; Am J Physiol Lung Cell Mol Physiol. 2020 Feb 1; 318(2): L386-L401 |

Osteoblast Growth Medium (+ modifications): C-27001

| Cell type used | Reference |
|---|---|
| Human fetal osteoblast cell line | Niu et al.; Cell Prolif. 2015 Jun; 48(3): 348-355 |
| | Stolzoff and Webster; J Biomed Mater Res A. 2016 Feb; 104(2): 476-482 |
| | Stolzoff et al.; Int J Nanomedicine. 2017 Feb 9; 12: 1161-1169 |
| | Lobo et al.; Int J Nanomedicine. 2018 Nov 22; 13: 7891-7903 |
| | Rios-Pimentel et al.; Int J Nanomedicine. 2019 May 6; 14: 3265-3272 |
| | Gao et al.; Int J Nanomedicine. 2020 Jan 28; 15: 513-519 |
| Primary cells isolated from antler growth region of fallow buck (STRO-1 ⁺ cells) | Rolf et al.; PLoS One. 2008 Apr 30; 3(4): e2064 |
| Saos-2 (human osteosarcoma cell line) | Stougaard et al.; BMC Rheumatol. 2018 Nov 19; 2:33 |
| | Bergolt et al.; Int J Mol Sci. 2021 Dec 28; 23(1): 323 |
| Human calvarial osteoblast cell line | Xia et al.; Mol Med Rep. 2017 Jul; 16(1): 361-366 |
| MC3T3-E1 (murine preosteoblast cell line) | Pajovich and Banerjee; J Funct Biomater. 2017 Sep 20; 8(3): 41 |

Osteoblast Mineralization Medium: C-27020

| Cell type used | Reference |
|--|---|
| Mesenchymal cells isolated from the calvariae of neonatal mice | Deloch et al.; Int J Mol Sci. 2018 Oct 16; 19(10): 3197 |
| | Deloch et al.; Front Immunol. 2018 Sep 18; 9: 1834 |
| Primary murine vascular smooth muscle cells | Wortmann et al.; Mol Med. 2020 Sep 15; 26(1): 87 |

| Cell type used | Reference |
|---|---|
| MC3T3-E1 (murine preosteoblast cell line) | Pajovich and Banerjee; J Funct Biomater. 2017 Sep 20; 8(3): 41 |
| SK-ES-1 (human osteosarcoma cell line) | Heckt et al.; Bone. 2016 Nov; 92: 85–93 |
| Saos-2 (human osteosarcoma cell line) | Baldauf et al.; PLoS One. 2015 Sep 11; 10(9): e0137745 |
| | Heckt et al.; Bone. 2016 Nov; 92: 85–93 |
| | Tucker et al.; Int J Mol Sci. 2018 Mar 7; 19(3): 763 |
| | Stougaard et al.; BMC Rheumatol. 2018 Nov 19; 2: 33 |
| | Mancuso et al.; Mater Sci Eng C Mater Biol Appl. 2021 Jul; 126: 112192 |
| | Bergolt et al.; Int J Mol Sci. 2021 Dec 28; 23(1): 323 |
| U2-OS (human osteosarcoma cell line) | Baldauf et al.; PLoS One. 2015 Sep 11; 10(9): e0137745 |
| UMR-106 (rat osteosarcoma cell line; ATCC CRL-1661) | Toepfer et al.; Am J Physiol Regul Integr Comp Physiol. 2021 Jul 1; 321(1): R29-R40 |

Preadipocyte/Adipocyte Media (+ modifications): C-27438, C-27437, C-27410

| Cell type used | Reference |
|--|---|
| Primary human adipose stem cells | Laforenza et al.; PLoS one. 2013; 8(1): e54474 |
| | Lee et al.; PLoS One. 2014 Nov 3; 9(11): e111767 |
| | Kober et al.; Biomed Res Int. 2015; 2015: 170427 |
| | Xu et al.; Ann Transl Med. 2020 Dec; 8(24): 1652 |
| Primary bone-marrow MSC from rat | Ichinohe et al.; Stem Cell Res Ther. 2021 May 29; 12(1): 312 |
| Primary murine preadipocytes isolated from inguinal fat pads | Abdelkarim et al.; J Biol Chem. 2010 Nov 19; 285(47): 36759–36767 |
| White adipose tissue from mice | Wouters et al.; PLoS One; 2012 Mar; 7(3): e32440 |
| Xu et al.; Adipocyte. 2013 Jan 1; 2(1): 33–40 | Xu et al.; Adipocyte. 2013 Jan 1; 2(1): 33–40 |

Pericyte Growth Medium 2 (+ modifications): C-28041

| Cell type used | Reference |
|-----------------------------------|---|
| Primary porcine vascular wall MSC | Bernardini et al.; Int J Mol Sci. 2020 Jul 24; 21(15): 5267 |

| Cell type used | Reference |
|----------------------------------|---|
| Primary murine cardiac pericytes | Cornuault et al.; J Am Heart Assoc. 2023 Jul 4; 12(13): e029279 |
| Primary murine brain pericytes | Lee et al.; EMBO J. 2022 May 2; 41(9): e109890 |

Mesenchymal Stem Cell Media (+ modifications): C-28009, C-28019, C-28012, C-28013, C-28015, C28016

| Cell type used | Reference |
|--|---|
| Human primary preadipocytes [MSC Growth Medium 2] | Cai et al.; Cell Res. 2020 Jul; 30(7): 574–589 |
| Human adult skin fibroblasts [MSC Growth Medium 2] | Liuyang et al.; Cell Stem Cell. 2023 Apr 6; 30(4): 450–459 |
| Multipotent postnatal stem/progenitor cells from human alveolar bone proper tissue of the oral cavity [MSC Chondrogenic Differentiation Medium] | El-Sayed et al.; J Craniomaxillofac Surg. 2012 Dec; 40(8): 735–742 |
| Human gingival margin-derived stem/progenitor cells [MSC Chondrogenic Differentiation Medium; MSC Osteogenic Differentiation Medium] | El-Sayed et al.; Int J Oral Sci. 2015 Jun 26; 7(2): 80–88 |
| Primary human dental pulp stem cells [MSC Chondrogenic Differentiation Medium; MSC Neurogenic Differentiation Medium; MSC Osteogenic Differentiation Medium] | Lee et al.; J Korean Assoc Oral Maxillofac Surg. 2014 Aug; 40(4): 173–180 |
| | Seonwoo et al.; Nanomaterials. 2018 Jul 21; 8(7): 554 |
| | Noda et al.; Sci Rep. 2019 Apr 1; 9(1): 5430 |
| | Okajcekova et al.; Int J Mol Sci. 2020 Mar 26; 21(7): 2280 |
| Human amniotic membrane-derived fibroblasts [MSC Neurogenic Differentiation Medium] | Orikasa et al.; Sci Rep. 2022 Jan 13; 12(1): 682 |
| Human amniotic membrane-derived fibroblasts [MSC Neurogenic Differentiation Medium] | Higa et al.; Invest Ophthalmol Vis Sci. 2019 Sep 3; 60(12): 3718–3726 |
| Primary murine bone marrow derived stromal cells [MSC Chondrogenic Differentiation Medium] | Wang et al.; Exp Cell Res. 2013 Mar 10; 319(5): 623–632 |
| Primary murine bone marrow-derived MSC [MSC Osteogenic Differentiation Medium; MSC Chondrogenic Differentiation Medium] | Herz et al.; Brain Behav Immun. 2018 May; 70: 118–130 |
| Primary murine adipose-derived MSC [MSC Osteogenic Differentiation Medium; MSC Chondrogenic Differentiation Medium] | Marin-Bañasco et al.; Br. J. Pharmacol. 2017 Feb; 174(3): 238–253 |
| | Kankanam Gamage et al.; Biomolecules. 2022 Jul 21; 12(7): 1008 |
| UE7T-13 (immortalized human bone marrow-derived MSC) [MSC Osteogenic Differentiation Medium] | Tsujimura et al.; Int J Mol Sci. 2019 Nov 16; 20(22): 5759 |

| Cell type used | Reference |
|---|--|
| Primary murine manibular mesenchymal cells from embryos [MSC Neurogenic Differentiation Medium] | Shao et al.; J Mol Cell Biol. 2015 Oct; 7(5): 441-454 |
| Primary murine fibro-adipogenic progenitors [MSC Chondrogenic Differentiation Medium] | Fitzgerald et al.; Commun Biol. 2023 Jan 27; 6(1): 111 |
| Primary rat bone marrow MSC [MSC Osteogenic Differentiation Medium; MSC Chondrogenic Differentiation Medium; MSC Adipogenic Differentiation Medium 2] | Abiko et al.; Stem Cells Dev. 2018 Aug 1; 27(15): 1053-1061 |
| | Ichinohe et al.; Stem Cell Res Ther. 2021 May 29; 12(1): 312 |
| | Zhang et al.; Front Cell Dev Biol. 2021 Oct 26; 9: 768316 |
| | Maeda et al.; Sci Rep. 2021 Nov 9; 11(1): 21907 |
| | Liu et al.; Front Mol Biosci. 2022 Feb 11; 8: 782054 |
| Primary rat cranial bone-derived MSC [MSC Osteogenic Differentiation Medium] | Wu et al.; Kaohsiung J Med Sci. 2022 Jul; 38(7): 675-685 |
| | Abiko et al.; Stem Cells Dev. 2018 Aug 1; 27(15): 1053-1061 |
| Primary rat adipose derived MSC [MSC Osteogenic Differentiation Medium; MSC Chondrogenic Differentiation Medium; MSC Adipogenic Differentiation Medium 2] | Maeda et al.; Sci Rep. 2021 Nov 9; 11(1): 21907 |
| | Haertinger et al.; Cells. 2020 Jan 9; 9(1): 163 |
| | Chen et al.; Cell Transplant. 2022 Jan-Dec; 31: 9636897221089629 |
| | Tanoue et al.; Cell Transplant. 2023 Jan-Dec; 32: 9636897231207177 |
| Primary rat olfactory mucosa MSC [MSC Neurogenic Differentiation Medium] | El-Husseiny et al.; Int J Mol Sci. 2023 Apr 19; 24(8): 7513 |
| | Alvites et al.; Int J Cell Biol. 2020 Jan 29; 2020: 2938258 |
| Primary rabbit bone marrow derived MSC [MSC Chondrogenic Differentiation Medium] | Tanaka et al.; Am J Transl Res. 2016 May 15; 8(5): 2222-2233 |
| Primary rabbit endothelial progenitor cells [MSC Neurogenic Differentiation Medium] | Vašíček et al.; Genes. 2021 Mar 4; 12(3): 366 |
| Primary sheep bone marrow-derived MSC [MSC Osteogenic Differentiation Medium; MSC Chondrogenic Differentiation Medium; MSC Adipogenic Differentiation Medium 2] | Gromolak et al.; Int J Mol Sci. 2020 Dec; 21(24): 9726 |
| Primary chicken MSC [MSC Osteogenic Differentiation Medium; MSC Chondrogenic Differentiation Medium] | Svoradová et al.; Poult. Sci. 2023 Aug; 102(8): 102807 |
| Multipotent postnatal stem/progenitor cells from the gingival margin of miniature-pigs [MSC Chondrogenic Differentiation Medium; MSC Osteogenic Differentiation Medium] | El-Sayed et al.; J Clin Periodontol. 2012 Sep; 39(9): 861-870 |
| Primary pig adipose-derived stem cells [MSC Chondrogenic Differentiation Medium; MSC Osteogenic Differentiation Medium] | Jeong et al.; Stem Cell Res Ther. 2016 Aug 17; 7(1): 117 |

| Cell type used | Reference |
|--|---|
| Human immortalized MSC [MSC Osteogenic Differentiation Medium] | Narai et al.; Heliyon. 2020 Oct 31; 6(10): e05398 |
| Immortalized human adipose tissue-derived MSC [MSC Chondrogenic Differentiation Medium] | Choi et al.; Stem Cell Res Ther. 2023 Oct 4; 14(1): 283 |
| ASC52telo (hTERT-immortalized human adipose-derived MSC line) [MSC Growth Medium 2] | Jang et al.; Adv Healthc Mater. 2024 Dec; 13(31): e2402391 |
| MIO-M1 Müller cells (human immortalized Müller glia cell line) [MSC Neurogenic Differentiation Medium] | Anderson et al.; Nat Commun. 2024 Feb 6; 15(1): 1124 |
| HATMSC2 (immortalized human adipose tissue-derived MSC line) [MSC Osteogenic Differentiation Medium] | Gelli et al.; ACS Biomater Sci Eng. 2023 Dec 11; 9(12): 6632–6643 |
| C3H/10T1/2 (murine cell line isolated from a C3H mouse embryo) [MSC Osteogenic Differentiation Medium; MSC Chondrogenic Differentiation Medium] | Takayama et al.; Sci Rep. 2017 Dec 5; 7(1): 16953 |
| Immortalized renal Epo-producing cells from mice [MSC Growth Medium 2; MSC Adipogenic Differentiation Medium; MSC Osteogenic Differentiation Medium; MSC Chondrogenic Differentiation Medium; MSC Neurogenic Differentiation Medium] | Bapst et al.; J Cell Physiol. 2022 May; 237(5): 2420–2433 |
| AGMK1–9T7 (spontaneously immortalized cell line from monkey kidney cells) [MSC Adipogenic Differentiation Medium 2; MSC Osteogenic Differentiation Medium] | Lewis Jr. et al.; PLoS One. 2023 Dec 7; 18(12): e0293406 |

Notes: Please refer to the relevant publication for exact modifications.

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