SANTA CRUZ BIOTECHNOLOGY, INC.

M-CSF (D-4): sc-365779

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The macrophage colony-stimulating factor (M-CSF), also designated CSF-1, was originally discovered in serum, urine and other biological fluids as a factor that can stimulate the formation of macrophage colonies from bone marrow hematopoietic progenitor cells. M-CSF is a homodimeric cytokine that is produced by fibroblasts, epithelial cells, bone marrow stromal cells, osteoblasts, keratinocytes, macrophages, T cells and B cells. M-CSF is a glycoprotein required for the proliferation and differentiation of mononuclear phagocytes, including osteoclasts. M-CSF has also been identified as an important mediator of the inflammatory response and can regulate the release of proinflammatory cytokines from macrophages. M-CSF exerts its pleiotropic effects by binding to a single type of high affinity cell surface receptor that is encoded by the c-Fms proto-oncogene.

CHROMOSOMAL LOCATION

Genetic locus: CSF1 (human) mapping to 1p13.3; Csf1 (mouse) mapping to 3 F2.3.

SOURCE

M-CSF (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 39-64 near the N-terminus of M-CSF of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

M-CSF (D-4) is available conjugated to agarose (sc-365779 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365779 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365779 PE), fluorescein (sc-365779 FITC), Alexa Fluor® 488 (sc-365779 AF488), Alexa Fluor® 546 (sc-365779 AF546), Alexa Fluor® 594 (sc-365779 AF594) or Alexa Fluor® 647 (sc-365779 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365779 AF680) or Alexa Fluor® 790 (sc-365779 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365779 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

M-CSF (D-4) is recommended for detection of M-CSF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

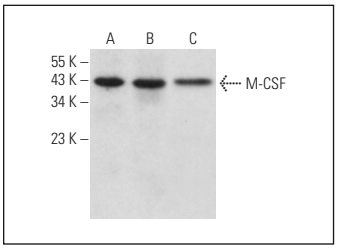
Suitable for use as control antibody for M-CSF siRNA (h): sc-39393, M-CSF siRNA (m): sc-39394, M-CSF shRNA Plasmid (h): sc-39393-SH, M-CSF shRNA Plasmid (m): sc-39394-SH, M-CSF shRNA (h) Lentiviral Particles: sc-39393-V and M-CSF shRNA (m) Lentiviral Particles: sc-39394-V.

Molecular Weight of M-CSF: 19 kDa.

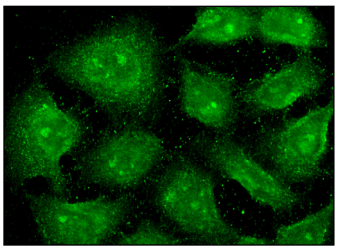
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



M-CSF (D-4): sc-365779. Western blot analysis of M-CSF expression in NIH/3T3 (**A**), RAW 264.7 (**B**) and PC-12 (**C**) whole cell lysates.



M-CSF (D-4): sc-365779. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Vijayan, V., et al. 2013. Homocysteine alters the osteoprotegerin/RANKL system in the osteoblast to promote bone loss: pivotal role of the redox regulator forkhead O1. Free Radic. Biol. Med. 61: 72-84.
2. Hoshino, S., et al. 2014. Macrophage colony-stimulating factor induces prolactin expression in rat pituitary gland. Zoolog. Sci. 31: 390-397.
3. Liu, W., et al. 2015. The relationship between colonic macrophages and microRNA-128 in the pathogenesis of slow transit constipation. Dig. Dis. Sci. 60: 2304-2315.
4. Lee, E.H., et al. 2016. Immunogenomics reveal molecular circuits of diclofenac induced liver injury in mice. Oncotarget 7: 14983-15017.
5. Wang, W., et al. 2017. Lymphatic endothelial cells produce M-CSF, causing massive bone loss in mice. J. Bone Miner. Res. 32: 939-950.
6. Wang, X., et al. 2018. *Sarcodon imbricatus* polysaccharides improve mouse hematopoietic function after cyclophosphamide-induced damage via G-CSF mediated JAK2/Stat3 pathway. Cell Death Dis. 9: 578.
7. Hsu, W.C., et al. 2019. CSF-1 overexpression predicts poor prognosis in upper tract urothelial carcinomas. Dis. Markers 2019: 2724948.
8. Xie, S., et al. 2020. MiR-423-5p may regulate ovarian response to ovulation induction via CSF1. Reprod. Biol. Endocrinol. 18: 26.
9. Li, L., et al. 2020. Calf thymus polypeptide improved hematopoiesis via regulating colony-stimulating factors in BALB/c mice with hematopoietic dysfunction. Int. J. Biol. Macromol. 156: 204-216.
10. Wu, D., et al. 2020. Loading-induced antitumor capability of murine and human urine. FASEB J. 34: 7578-7592.
11. Jimenez, T., et al. 2020. Nicotine synergizes with high-fat diet to induce an anti-inflammatory microenvironment to promote breast tumor growth. Mediators Inflamm. 2020: 5239419.

RESEARCH USE

For research use only, not for use in diagnostic procedures.