SANTA CRUZ BIOTECHNOLOGY, INC.

M-CSF (N-16): sc-1324

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.

REFERENCES

1. Stanley, E.R., et al. 1977. Factors regulating macrophage production and growth. Purification and some properties of the colony stimulating factor from medium conditioned by mouse L cells. J. Biol. Chem. 252: 4305-4312.
2. Das, S.K., et al. 1981. Human colony-stimulating factor (CSF-1) radioimmunoassay: resolution of three subclasses of human colony-stimulating factors. Blood 58: 630-641.

CHROMOSOMAL LOCATION

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

SOURCE

M-CSF (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of M-CSF of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1324 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

M-CSF (N-16) is recommended for detection of M-CSF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

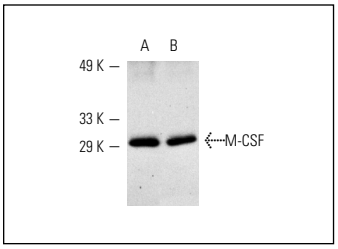
Suitable for use as control antibody for M-CSF siRNA (h): sc-39393, M-CSF siRNA (m): sc-39394, M-CSF shRNA Plasmid (h): sc-39393-SH, M-CSF shRNA Plasmid (m): sc-39394-SH, M-CSF shRNA (h) Lentiviral Particles: sc-39393-V and M-CSF shRNA (m) Lentiviral Particles: sc-39394-V.

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 (N-16): sc-1324. Western blot analysis of mouse recombinant M-CSF (**A**,**B**).

SELECT PRODUCT CITATIONS

1. Murphy, G.M., Jr., et al. 2000. Expression of macrophage colony-stimulating factor receptor is increased in the AβPP^{V717F} transgenic mouse model of Alzheimer's disease. Am. J. Pathol. 157: 895-904.
2. Finkelstein, A., et al. 2002. Increased expression of macrophage colony-stimulating factor after coronary artery balloon injury is inhibited by intracoronary brachytherapy. Circulation 105: 2411-2415.
3. Eubank, T.D., et al. 2003. M-CSF induces vascular endothelial growth factor production and angiogenic activity from human monocytes. J. Immunol. 171: 2637-2643.
4. Fried, G., et al. 2003. Endothelin-1 and macrophage colony-stimulating factor are co-localized in human amnion membrane cells and secreted into amniotic fluid. Mol. Hum. Reprod. 9: 719-724.
5. Kirma, N., et al. 2004. Overexpression of the colony-stimulating factor (CSF-1) and/or its receptor c-fms in mammary glands of transgenic mice results in hyperplasia and tumor formation. Cancer Res. 64: 4162-4170.
6. Wilson, S.E, et al. 2004. RANK, RANKL, OPG, and M-CSF expression in stromal cells during corneal wound healing. Invest. Ophthalmol. Vis. Sci. 45: 2201-2211.
7. da Costa, C.E., et al. 2005. Presence of osteoclast-like multinucleated giant cells in the bone and nonostotic lesions of Langerhans cell histiocytosis. J. Exp. Med. 201: 687-693.
8. Blouin, S., et al. 2008. Interactions between microenvironment and cancer cells in two animal models of bone metastasis. Br. J. Cancer 98: 809-815.
9. Menke, J., et al. 2009. CSF-1 signals directly to renal tubular epithelial cells to mediate repair in mice. J. Clin. Invest. 119: 2330-2342.
10. Jiao, K., et al. 2011. Subchondral bone loss following orthodontically induced cartilage degradation in the mandibular condyles of rats. Bone 48: 362-371.

RESEARCH USE

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