Human Oncostatin M/OSM Antibody

Monoclonal Mouse IgG_{2A} Clone # 17022

Catalog Number: MAB2951

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Oncostatin M/OSM in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Oncostatin M, recombinant human (rh) CLC, rhCNTF, rhCardiotrophin-1, rhIL-6, rhIL-11, or rhLIF is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 17022
Purification	Protein A or G purified from ascites
Immunogen	*E. coli*-derived recombinant human Oncostatin M/OSM Ala26-Arg221 Accession # P13725
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

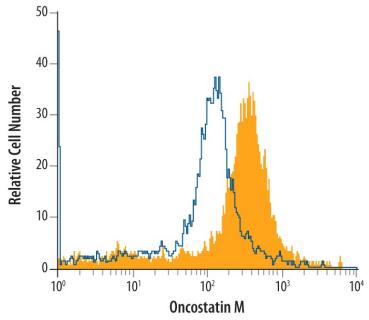
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize Oncostatin M/OSM-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The Neutralization Dose (ND_{50}) is typically 0.3-1.5 µg/mL in the presence of 2 ng/mL Recombinant Human Oncostatin M/OSM.	

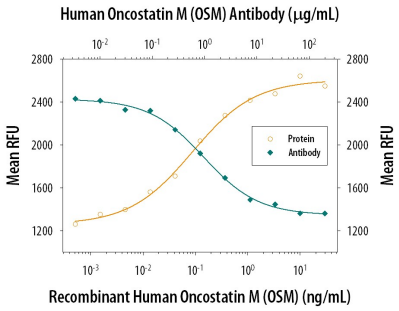
DATA

Intracellular Staining by Flow Cytometry



Detection of Oncostatin M/OSM in Human Dendritic Cells by Flow Cytometry. Human monocyte-derived dendritic cells were stained with Mouse Anti-Human Oncostatin M Monoclonal Antibody (Catalog # MAB2951, filled histogram) or isotype control antibody (Catalog # MAB003, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

Neutralization



Cell Proliferation Induced by Oncostatin M/OSM and Neutralization by Human Oncostatin M/OSM Antibody. Recombinant Human Oncostatin M (Catalog # 295-OM) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human Oncostatin M (2 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human Oncostatin M Monoclonal Antibody (Catalog # MAB2951). The ND_{50} is typically 0.3-1.5 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

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BACKGROUND

Oncostatin M (OSM) is a cytokine originally isolated from medium conditioned by PMA-treated U-937 human histiocytic leukemia cells based on its ability to inhibit growth of A375 melanoma cells. The human OSM cDNA encodes a 252 amino acid pre-pro-OSM polypeptide with a 25 residue hydrophobic signal peptide and a hydrophilic C-terminal domain that are proteolytically processed to generate the 196 residue mature form of OSM. Although both mature and pro-OSM are equally active in radio-receptor assays, the mature OSM is 5- to 60-fold more active in growth inhibition assays. Thus, proteolytic processing of the pro-OSM peptide may be important in regulating the *in vivo* activities of OSM.

OSM is a pleiotropic cytokine that initiates its biological activities by binding to specific cell surface receptors. The biological activity of human OSM is mediated either by the LIF/OSM receptor complex composed of gp130 and LIF Rα or by a human OSM specific receptor composed of gp130 and OSM Rα. The gp130, a signal transducing component (β subunit) of the IL-6, LIF and CNTF receptor complexes, was identified as a low-affinity OSM receptor that does not transduce OSM signals. The low affinity LIF receptor (LIF R, a gp130-related protein) has been identified to be a component of a high-affinity OSM receptor that will transduce OSM signals. Besides its growth inhibitory activities on human A375 melanoma and mouse M1 myeloid leukemic cells, as well as on other solid tumor cells, OSM also has growth stimulatory activities on normal fibroblasts, AIDS-Kaposi's sarcoma cells, and a human erythroleukemia cell line, TF-1. Other OSM-mediated activities reported to date include: stimulation of plasminogen activator activity in cultured bovine aortic endothelial cells; regulation of IL-6 expression in human endothelial cells; and stimulation of LDL uptake and up-regulation of cell surface LDL receptors in HepG2 cells.

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