Human OSM Rβ Antibody

Monoclonal Mouse IgG_1 Clone # 469221

Catalog Number: MAB4389

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human OSM Rβ in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse OSM Rβ is observed.
Source	Monoclonal Mouse IgG_1 Clone # 469221
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human OSM Rβ Glu28-Ser739 Accession # Q99650
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.

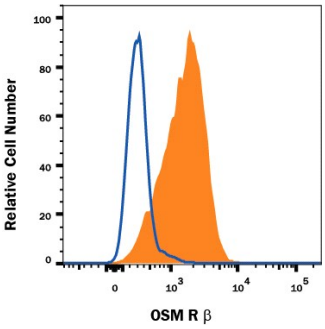
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Human OSM Rβ (Catalog # 4389-OR) under non-reducing conditions only
Flow Cytometry	0.25 µg/10^6 cells	See Below
Immunocytochemistry	8-25 µg/mL	Immersion fixed HeLa human cervical epithelial carcinoma cell line
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Knockout Validated	OSM R β is specifically detected in HeLa human parental cell line but is not detectable in OSM R β knockout HeLa cell line.	

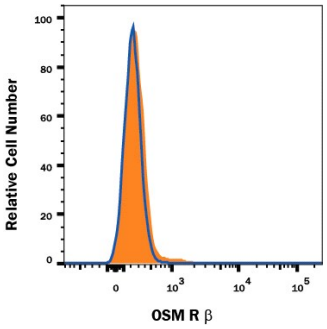
DATA

Flow Cytometry



Detection of OSM Rβ in HeLa Human Cell Line by Flow Cytometry. HeLa human cervical epithelial carcinoma cell line was stained with Mouse Anti-Human OSM Rβ Monoclonal Antibody (Catalog # MAB4389, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG $F(ab')_2$ Secondary Antibody (Catalog # F0101B).

Knockout Validated



OSM Rβ Specificity is Shown by Flow Cytometry in Knockout Cell Line. OSM Rβ knockout HeLa human cervical carcinoma cell line was stained with Mouse Anti-Human OSM Rβ Monoclonal Antibody (Catalog # MAB4389, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram) followed by APC-conjugated Goat anti-Mouse IgG Secondary Antibody (Catalog # F0101B). No staining in the OSM Rβ knockout HeLa cell line was observed. View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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.

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Human OSM Rβ Antibody

Monoclonal Mouse IgG_1 Clone # 469221

Catalog Number: MAB4389

BACKGROUND

OSM Rβ is a 150-180 kDa member of the IL-6 receptor family. It associates with gp130 to form the type II OSM receptor that is responsive to OSM. The gp130 subunit is shared by other IL-6 family cytokine receptors (1, 2, 3, 4), and OSM Rβ associates with gp130-like receptor (GPL) to form a receptor complex responsive to IL-31 (5, 6). The human OSM Rβ cDNA encodes a 979 amino acid (aa) precursor that includes a 27 aa signal sequence, a 712 aa extracellular domain (ECD), a 22 aa transmembrane segment, and a 218 aa cytoplasmic domain. The ECD contains one partial and one complete hematopoietin domain, an Ig-like domain, and three fibronectin type-III domains. The cytoplasmic domain contains box1, 2, and 3 motifs (7). Within the ECD, human OSM Rβ shares 55%, 58%, 61%, and 72% aa sequence identity with mouse, rat, bovine, and canine OSM Rβ, respectively. It also shares 31% aa sequence identity with human LIF R, but less than 20% aa sequence identity with human CNTF Rα, G-CSF R, IL-6 R, IL-11 Rα, and TCCR. OSM Rβ does not bind cytokines directly, but increases the affinity of gp130 for OSM, and GPL for IL-31 (7, 8). OSM Rβ, gp130, and GPL each initiate signaling events following ligand stimulation (9, 10). Jak/STAT and MAPK pathways are activated by OSM Rβ-containing receptors (9, 11, 12, 13), including STAT5b and SHC which are not activated by other IL-6 family receptors (10, 13). In mice, the loss of OSM Rβ expression blocks erythroid progenitor development in bone marrow, and dramatically reduces the number of circulating platelets and erythrocytes (14). The type II OSM receptor is the only IL-6 family receptor that promotes osteoblast differentiation in calvaria cell cultures (15).

References:

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