

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human OSM R $\beta$ in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse OSM R $\beta$ is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 469221
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human OSM R $\beta$ Glu28-Ser739 Accession # Q99650
<b>Conjugate</b>	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

#### 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25-1 $\mu$ g/10 <sup>6</sup> cells	HeLa human cervical epithelial carcinoma cell line

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

#### BACKGROUND

OSM R $\beta$  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 R $\beta$  associates with gp130-like receptor (GPL) to form a receptor complex responsive to IL-31 (5, 6). The human OSM R $\beta$  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 R $\beta$  shares 55%, 58%, 61%, and 72% aa sequence identity with mouse, rat, bovine, and canine OSM R $\beta$ , respectively. It also shares 31% aa sequence identity with human LIF R, but less than 20% aa sequence identity with human CNTF R $\alpha$ , G-CSF R, IL-6 R, IL-11 R $\alpha$ , and TCCR. OSM R $\beta$  does not bind cytokines directly, but increases the affinity of gp130 for OSM, and GPL for IL-31 (7, 8). OSM R $\beta$ , gp130, and GPL each initiate signaling events following ligand stimulation (9, 10). Jak/STAT and MAPK pathways are activated by OSM R $\beta$ -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 R $\beta$  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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