

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human OSM R β in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse OSM R β 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 R β Glu28-Ser739 Accession # Q99650
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	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.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 μ g/10 ⁶ cells	HeLa human cervical epithelial carcinoma cell line

PREPARATION AND STORAGE

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

BACKGROUND

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

- Chen, S.-H. and E.N. Benveniste (2004) Cytokine Growth Factor Rev. **15**:379.
- Heinrich, P.C. *et al.* (2003) Biochem. J. **374**:1.
- Tanaka, M. and A. Miyajima (2003) Rev. Physiol. Biochem. Pharmacol. **149**:39.
- Gearing, D.P. *et al.* (1992) Science **255**:1434.
- Dillon, S.R. *et al.* (2004) Nat. Immunol. **5**:752.
- Diveu, C. *et al.* (2003) J. Biol. Chem. **278**:49850.
- Mosley, B. *et al.* (1996) J. Biol. Chem. **271**:32635.
- Diveu, C. *et al.* (2004) Eur. Cytokine Netw. **15**:291.
- Dreuw, A. *et al.* (2004) J. Biol. Chem. **279**:36112.
- Wang, Y. *et al.* (2000) J. Biol. Chem. **275**:25273.
- Hermanns, H.M. *et al.* (2000) J. Biol. Chem. **275**:40742.
- Kuropatwinski, K.K. *et al.* (1997) J. Biol. Chem. **272**:15135.
- Auguste, P. *et al.* (1997) J. Biol. Chem. **272**:15760.
- Tanaka, M. *et al.* (2003) Blood **102**:3154.
- Malaval, L. *et al.* (2005) J. Cell. Physiol. **204**:585.

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