

## DESCRIPTION

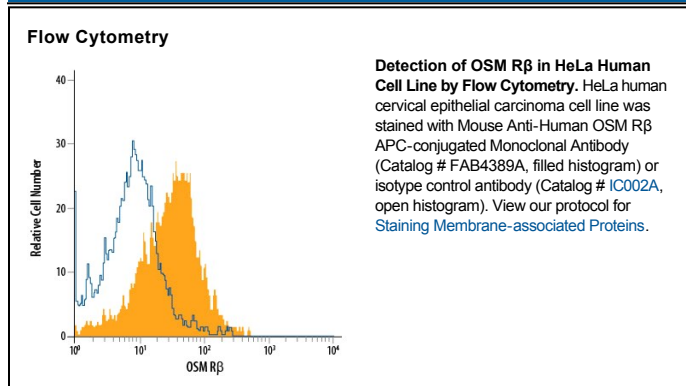
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human OSM R $\beta$ in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse OSM R $\beta$ is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 469221
<b>Purification</b>	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>	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
<b>Formulation</b>	Supplied 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
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## 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:**

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