

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-1 RAcP in Western blots. In Western blots, less than 1% cross-reactivity with recombinant human IL-1 RI is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-1 RAcP/IL-1 R3 Ser21-Glu359 Accession # Q9NPH3
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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	0.1 µg/mL	Recombinant Human IL-1 RAcP/IL-1 R3 Fc Chimera (Catalog # 676-CP)
Flow Cytometry	2.5 µg/10 ⁶ cells	Human peripheral blood monocytes

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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.

BACKGROUND

IL-1 Receptor Accessory Protein (also IL-1 R3) is a ubiquitous, 70-90 kDa member of the interleukin-1 receptor family of proteins (1-5). It serves as a non-ligand-binding accessory component of the receptors for IL-1 α , IL-1 β and IL-33 (6, 7). Together with IRAK4 and MyD88, it generates a functional signaling complex with IL-1 RI; by itself, it generates a non-signaling, but high-affinity binding complex with IL-1 RII (8). In addition, it interacts with ST2 on mast cells and Th2 T cells to create a functional IL-33 receptor complex (7). Mature human IL-1 RAcP is a type I transmembrane glycoprotein that is 550 amino acids in length. It contains a 347 amino acid (aa) extracellular region (aa 21-367), a 21 aa transmembrane segment, and a 182 aa cytoplasmic domain (9). The extracellular region shows three C2-type Ig-like domains, the most membrane proximal of which is suggested to be responsible for dimerization with IL-1 RI (10). There are three alternative splice forms reported for IL-1 RAcP. One is transmembrane, and shows a 239 aa substitution for the C-terminal 122 amino acids (11). The other two are soluble; one shows a six aa substitution for aa 351-570, while a second shows a 45 aa substitution for aa 302-579 (12, 13). The soluble receptor isoforms appear to be inhibitory to IL-1 signaling. When present with soluble IL-1 RII, soluble IL-1 RAcP increases the IL-1 binding affinity of IL-1 RII more than 100-fold, thus neutralizing the effects of IL-1 (14). The human and mouse IL-1 RAcP precursors are 89% aa identical; within the extracellular region, they share 86% aa identity.

References:

1. Subramaniam, S. *et al.* (2004) *Dev. Comp. Immunol.* **28**:415.
2. Boraschi, D. and A. Tagliabue (2006) *Vitam. Horm.* **74**:229.
3. Dunne, A. and L.A.J. O'Neill (2003) *Sci STKE.* Feb 25;2003(171):re3.
4. Huang, J. *et al.* (1997) *Proc. Natl. Acad. Sci. USA* **94**:12829.
5. Greenfeder, S. A. *et al.* (1995) *J. Biol. Chem.* **270**:13757.
6. Brikos, C. *et al.* (2007) *Mol. Cell. Proteomics* **6**:1551.
7. Chackerian, A.A. *et al.* (2007) *J. Immunol.* **179**:2551.
8. Lang, D. *et al.* (1998) *J. Immunol.* **161**:6871.
9. SwissProt. Accession # Q9NPH3.
10. Yoon, D-Y. and C.A. Dinarello (1998) *J. Immunol.* **160**:3170.
11. Lu, H-L. *et al.* (2008) *Mol. Immunol.* **45**:1374.
12. Jensen, L.E. *et al.* (2000) *J. Immunol.* **164**:5277.
13. Jensen, L.E. and A.S. Whitehead (2003) *Cell. Signal.* **15**:793.
14. Smith, D.E. *et al.* (2003) *Immunity* **18**:87.