

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-36Ra/IL-1F5 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) IL-1ra is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human IL-36Ra/IL-1F5 Val2-Asp155 Accession # Q9UBH0
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	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
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human IL-36Ra/IL-1F5 (Catalog # 1275-IL)
<b>Blockade of Receptor-ligand Interaction</b>	In a functional ELISA, 0.5-2 µg/mL of this antibody will block 50% of the binding of 5 µg/mL of Recombinant Human IL-1 Rrp2 Fc Chimera or Recombinant Mouse IL-1 Rrp2 (Catalog # 872-RP or 2354-RP) to immobilized Recombinant Human IL-36Ra/IL-1F5 or Recombinant Mouse IL-36Ra/IL-1F5, respectively (Catalog # 1275-IL or 2714-ML) coated at 1 µg/mL (100 µL/well). At 100 µg/mL, this antibody will block >90% of the binding.	

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Human Interleukin-36 receptor antagonist protein [IL36Ra; also named interleukin 1 family member 5, IL-1F5, FIL-1δ (delta), IL36RN, IL-1HY1, IL-1H3, and IL-1L1] is a member of the IL-1 family of proteins (1-6). IL-1 family members include IL-1β, IL-1α, IL-1ra, IL-18 and IL-1F5-F10 (6, 7). All family members show a 12 β-strand, β-trefoil configuration, and all family members are believed to have arisen from a common ancestral gene that underwent multiple duplications (7). The human IL-1F5 gene is in closest proximity to the gene for IL-1ra and is likely a relatively recent duplication of the IL-1ra gene (2, 3). IL-1F5 is synthesized as a 155 amino acid (aa) protein that contains no signal sequence, no prosegment and no potential N-linked glycosylation site(s) (2-5). Nevertheless, it appears to be secreted as a 17 kDa monomer (5). There is an alternate start site that potentially gives rise to an alternate splice form (5). The translated product, however, has a premature stop codon, resulting in a truncated 16 aa peptide. Human to mouse, full length IL-1F5 has 90% aa identity. Within the family, IL-1F5 is 50% aa identical to IL-1ra, and 32%, 31%, 35%, 37%, 32% and 42% aa identical to IL-1β, IL-1F6, F7, F8, F9 and F10, respectively. Cells reported to express IL-1F5 include monocytes, B cells, dendritic cells/Langerhans cells, keratinocytes, and gastric fundus Parietal and Chief cells (1, 8). The receptor for IL-1F5 has not been positively identified. Indirect evidence suggests it is IL-1 Rrp2 and/or IL-1 RAcP (9). In either case, activity association with receptor binding is also unclear. It was initially reported to be an antagonist of IL-1F9 activity (4, 7). This would be consistent with its hypothesized relationship to IL-1ra. Studies, however, find IL-1F5 antagonist activity difficult to demonstrate (9).

## References:

1. Smith, D. E. *et al.* (2000) *J. Biol. Chem.* **275**:1169.
2. Kumar, S. *et al.* (2000) *J. Biol. Chem.* **275**:10308.
3. Mulero, J.J. *et al.* (1999) *Biochem. Biophys. Res. Commun.* **263**:702.
4. Nicklin, M.J.H. *et al.* (2002) *Genomics.* **79**:718.
5. Barton, J.L. *et al.* (2000) *Eur. J. Immunol.* **30**:3299.
6. Dinarello, C. *et al.* (2010) *Nature Immunology* **11**. 973.
7. Dunn, E. *et al.* (2001) *Trends Immunol.* **22**:533.
8. Debets, R. *et al.* (2001) *J. Immunol.* **167**:1440.
9. Towne, J.E. *et al.* (2004) *J. Biol. Chem.* **279**:13677.