

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse PILR-β in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 20% cross-reactivity with recombinant mouse PILR-α is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse PILR-β Ala28-Gly193 Accession # Q2YFS2
Formulation	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
Western Blot	0.1 µg/mL	Recombinant Mouse PILR-β (Catalog # 3525-PR)

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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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

PILR-β (paired immunoglobulin-like type 2 receptor-beta) is one of two members of a small family of immunoregulatory Ig-superfamily receptors (1, 2). It is a counterpart to PILR-α and it likely arose through PILR-α gene duplication and rearrangement (1). The PILRs represent one of many pairs of Ig-like domain-containing receptors that participate in immune regulation. PILR-β and -α should not be confused with the similarly named PIRs (also paired immunoglobulin-like receptors), or the functionally-related SIRP and ILT/LILR/CD85/LIR family of receptors (2). While PIRs, ILTs and SIRPs contain three to six Ig-like domains in their extracellular region, PILR-β and -α show only one Ig-like region in their extracellular domain (ECD) (1, 2). Mouse PILR-β is a 196 amino acid (aa) type I transmembrane (TM) protein (3). It contains a 167 aa ECD, a 21 aa TM segment, and a short 8 aa cytoplasmic region. The ECD shows a V-type Ig-like domain (aa 39-135), while the TM segment contains a positively-charged Lys at position # 202. This Lys is known to interact with the transmembrane signaling adaptor protein DAP12, making PILR-β an activating receptor. Activation of PILR-β through CD99 ligation induces NK cell cytotoxicity and dendritic cell secretion of NO and TNF-α (3). Mouse PILR-β is found on NK cells, neutrophils, macrophages, and monocyte-derived dendritic cells (3). Mouse PILR-β ECD is 44% and 75% aa identical to human and rat PILR-β ECD, respectively; it is 75% aa identical to the ECD of mouse PILR-α (3). Evidence suggests that mouse PILR-β will not be active in a human system (3). Potential isoforms of PILR-β have been reported. One shows an alternate start site at Met14, a second shows a 21 aa substitution for the C-terminal 67 aa, and a third exhibits multiple polymorphisms for an overall aa identity of 86% (4, 5, 6).

References:

1. Wilson, M.D. *et al.* (2006) *Physiol. Genomics* **27**:201.
2. Lanier, L.L. (2001) *Curr. Opin. Immunol.* **13**:326.
3. Shiratori, I. *et al.* (2004) *J. Exp. Med.* **199**:525.
4. Genbank Accession # NP_573472.
5. Genbank Accession # BAC29442.
6. Genbank Accession # XP_001480583.