

DESCRIPTION

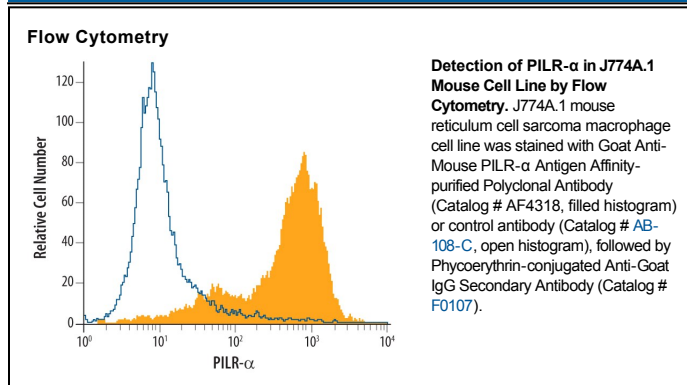
Species Reactivity	Mouse
Specificity	Detects mouse PILR- α in direct ELISAs and Western blots. In Western blots, approximately 20% cross-reactivity with recombinant mouse PILR- β is observed and 5% cross-reactivity with recombinant human PILR- α is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse PILR- α isoform 1 (R&D Systems, Catalog # 4318-PR) Leu21-Val197 Accession # Q2YFS3
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m 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 μ g/mL	Recombinant Mouse PILR- α (Catalog # 4318-PR)
Flow Cytometry	2.5 μ g/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



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- α (paired immunoglobulin-like type 2 receptor-alpha; also named FDF03) is one of two members of a small family of immunoregulatory Ig-superfamily receptors (1, 2). It is a counterpart to PILR- β and it likely gave rise to PILR- β through gene duplication and rearrangement (1). The PILRs represent one of many pairs of Ig-like domain-containing receptors that participate in immune regulation. PILR- α and - β 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- α and - β show only one Ig-like region in their extracellular domain (ECD) (1, 2). Mouse PILR- α is a monomeric, 271 amino acid (aa) type I transmembrane (TM) protein (3). It contains a 167 aa ECD, a 21 aa TM segment, and a long, 83 aa cytoplasmic region. The ECD shows one V-type Ig-like domain between aa 39 - 157, while the cytoplasmic region contains two ITIMs (immunoreceptor Tyr-based inhibitory motifs) between aa 265-270 and 294-299. Given that ITIMs are known to interact with phosphatases such as PTPN6 and PTPN11, the presence of these motifs makes mouse PILR- α an inhibitory receptor. In human, activation of PILR- α inhibits CD32/Fc γ RII-induced calcium mobilization (3). Although CD99 is a known ligand for both PILR- α and - β (4), highest affinity binding seems to occur between CD99 and PILR- α (4). Mouse PILR- α is found on neutrophils and macrophages (4). Mouse PILR- α ECD is 43% and 69% aa identical to human and rat PILR- α ECD, respectively; it is 75% aa identical to the ECD of mouse PILR- β (3). One potential isoform of PILR- α has been reported. It varies only within the first 28 aa of the signal sequence (5).

References:

1. Wilson, M.D. *et al.* (2006) *Physiol. Genomics* **27**:201.
2. Lanier, L.L. (2001) *Curr. Opin. Immunol.* **13**:326.
3. Fournier, N. *et al.* (2000) *J. Immunol.* **165**:1197.
4. Shiratori, I. *et al.* (2004) *J. Exp. Med.* **199**:525.
5. SwissProt # Q2YFS3.