

DESCRIPTION

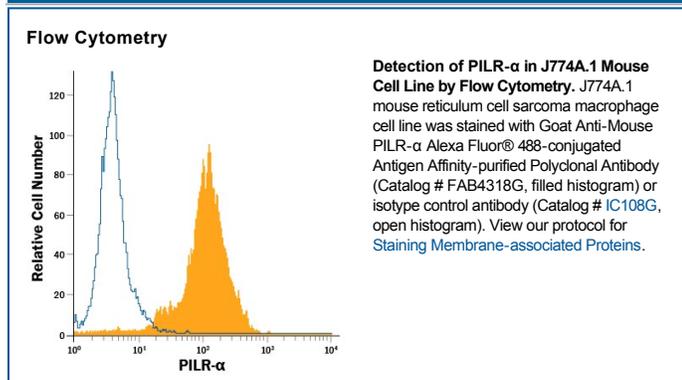
Species Reactivity	Mouse
Specificity	Detects mouse PILR- α in direct ELISAs and Western blots. In Western blots, approximately 20% cross-reactivity with recombinant mouse PILR- β is observed and 5% cross-reactivity with recombinant human PILR- α is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse PILR- α isoform 1 Leu21-Val197 Accession # Q2YFS3
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	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
Flow Cytometry	5 μ L/10 ⁶ cells	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> ● 12 months from date of receipt, 2 to 8 °C as supplied.

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 40-134, 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). The additional ligands for PILR- α have been reported. One is PANP that is expressed in neural tissue, while two others are NPDC1 and Collectin-12. In all cases, O-linked carbohydrates on the ligands are central to binding (5,6). 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).

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. Kogure, A. *et al.* (2011) *Biochem. Biophys. Res. Commun.* **405**:428.
6. Sun, Y. *et al.* (2012) *J. Biol. Chem.* **287**:15837.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.