

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
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.

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. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

PILR-α (paired immunoglobulin-like type 2 receptor-α; 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/FcγRII-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).

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