Human IL-7 Rα/CD127 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-306-PB

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-7 Rα in direct ELISAs and Western blots. In direct ELISAs, less than 15% cross-reactivity with recombinant rat IL-7 Rα and less than 5% cross-reactivity with recombinant mouse IL-7 Rα is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-7 Rα/CD127
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 Human IL-7 Rα/CD127 Fc Chimera (Catalog # 306-IR)
Flow Cytometry	0.25 µg/10^6 cells	Human peripheral blood $CD4^+$ lymphocytes
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

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.** ● 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

Interleukin 7 Receptor alpha (IL-7 Rα), also known as CD127, is a 75 kDa hematopoietin receptor superfamily member that plays an important role in lymphocyte differentiation, proliferation, and survival (1, 2). Mature human IL-7 Rα consists of a 219 amino acid (aa) extracellular domain (ECD) with one fibronectin type-III domain and a WSXWS motif, a 25 aa transmembrane segment, and a 195 aa cytoplasmic domain (3). Alternate splicing of human IL-7 Rα generates a secreted soluble form of the receptor (3). Within the ECD, human IL-7 Rα shares 67% aa sequence identity with mouse and rat IL-7 Rα. IL-7 Rα associates with the common γ chain (γ_c) to form the functional high affinity IL-7 receptor complex (4). The γ_c is also a subunit of the receptors for IL-2, -4, -9, -15, and -21. Human and mouse IL-7 show cross-species activity through the IL-7 receptor (3, 5). IL-7 Rα is expressed on double negative ($CD4^-/CD8^-$) and $CD4^+$ or $CD8^+$ single positive T cells as well as on $CD8^+$ memory T cells and their precursors (6, 7). It is expressed early in B cell development, prior to the appearance of surface IgM (6). In mouse, IL-7 activation of IL-7 Rα is critical for both T cell and B cell lineage development (8). In human, by contrast, it is required for T cell but not for B cell development (9). IL-7 induces the downregulation and shedding of cell surface IL-7 Rα (10). IL-7 Rα additionally associates with TSLP R to form the functional receptor for thymic stromal lymphopoietin (11, 12). TSLP indirectly regulates T cell development by modulating dendritic cell activation (2, 13). Knockout of TSLP R in mice provokes minor changes in B and T cell development compared to those seen with IL-7 Rα deletion (8, 14). The complexity of IL-7 Rα biology is suggested by the competition between IL-7 and TSLP for receptor binding and by the ability of IL-7 Rα to form functional complexes with SCF R and HGF R (11, 12, 15, 16).

References:

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