Human IL-7 Antibody

Polyclonal Goat IgG

Catalog Number: AB-207-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-7 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 10% cross-reactivity with recombinant mouse (rm) IL-7 is observed.
Source	Polyclonal Goat IgG
Purification	Protein A or G purified
Immunogen	*E. coli*-derived recombinant human IL-7 Asp26-His177 Accession # P13232
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

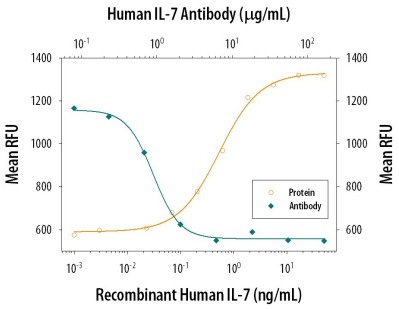
APPLICATIONS

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	1 µg/mL	Recombinant Human IL-7 (Catalog # 207-IL)
Neutralization	Measured by its ability to neutralize IL-7-induced proliferation in PHA-activated human peripheral blood mononuclear cells (PBMC). Yokota, T. *et al.* (1986) Proc. Natl. Acad. Sci. USA **83**:5894. The Neutralization Dose (ND_{50}) is typically 0.25-1.25 µg/mL in the presence of 2.5 ng/mL Recombinant Human IL-7.	

DATA

Neutralization



Cell Proliferation Induced by IL-7 and Neutralization by Human IL-7 Antibody. Recombinant Human IL-7 (Catalog # 207-IL) stimulates proliferation in PHA-activated human peripheral blood mononuclear cells (PBMC) in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-7 (2.5 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-7 Polyclonal Antibody (Catalog # AB-207-NA). The ND_{50} is typically 0.25–1.25 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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

IL-7, previously known as pre-B-cell growth factor and lymphopoietin-1, was originally purified on the basis of its ability to promote the proliferation of precursor B-cells. It has now been shown that IL-7 can also stimulate the proliferation of thymocytes, T cell progenitors and mature $CD4^+$ and $CD8^+$ T cells. IL-7 can induce the formation of lymphokine-activated killer (LAK) cells as well as the development of cytotoxic T lymphocytes (CTL). IL-7 was also shown to induce the V(D)J rearrangement of the T cell receptor β gene in mouse fetal thymocytes. Among myeloid lineage cells, IL-7 can up-regulate the production of pro-inflammatory cytokines and stimulate the tumoricidal activity of monocytes/macrophages. IL-7 is expressed by adherent stromal cells from various tissues.

Human IL-7 cDNA encodes a precursor protein of 177 amino residues containing a 25 amino acid residue signal peptide. Mouse IL-7 has approximately 65% amino acid sequence identity with human IL-7 and both proteins exhibit cross-species activity.

IL-7 bioactivites are mediated by the binding of IL-7 to functional high-affinity receptor complexes. The ligand binding subunit (IL-7 R) of the IL-7 receptor complex has been cloned from human and mouse sources. In addition to the membrane-anchored form of the IL-7 receptor, a human cDNA clone that encodes a soluble form of the IL-7 R has also been isolated. The γ chain of the IL-2 receptor complex has been shown to be an essential component for IL-7 signal transduction. Both IL-7 R and IL-2 Rγ are members of the hematopoietin receptor superfamily. Cells known to express IL-7 receptors include pre-B cells, T cells and bone marrow cells.