

## **Human IL-7 Antibody**

Antigen Affinity-purified Polyclonal Goat IgG Catalog Number: AF-207-NA

DESCRIPTION		
Species Reactivity	Human	
Specificity	Detects human IL-7 in direct ELISAs and Western blots.	
Source	Polyclonal Goat IgG	
Purification	Antigen Affinity-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. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.	

#### **APPLICATIONS**

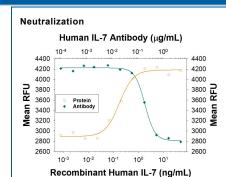
DATA

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	See Below	
Neutralization	Measured by its ability to neutralize IL-7-induced proliferation in PHA-activated human peripheral blood mononuclear cells (PBMC). Yokota, T. <i>et al.</i> (1986) Proc. Natl. Acad. Sci. USA <b>83</b> :5894. The Neutralization Dose (ND <sub>50</sub> ) is typically ≤ 0.5 µg/mL in the presence of 2.5 ng/mL Recombinant Human IL-7.		

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Detection of Recombinant Human and Mouse IL-7 by Western Blot. Western blot shows 25 ng of Recombinant Human IL-7 (Catalog # 207-IL), Recombinant Mouse IL-7 (Catalog # 407-ML) and Recombinant Rat IL-7 (Catalog # 7857-RL). PVDF Membrane was probed with 0.1 μg/mL of Goat Anti-Human IL-7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-207-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody Catalog # HAF109). A specific band was detected for IL-7 at approximately 17 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Groun 3.



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 Human IL-7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-207-NA). The ND<sub>50</sub> is typically ≤ 0.5µg/mL.

### 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

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#### 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.

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#### 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<sup>+</sup> and CD8<sup>+</sup> 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.

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