

Human IL-21 Antibody

Antigen Affinity-purified Polyclonal Goat IgG Catalog Number: AF15001

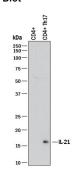
DESCRIPTION			
Species Reactivity	Human		
Specificity	Detects human IL-21 in direct ELISAs.		
Source	Polyclonal Goat IgG		
Purification	Antigen Affinity-purified		
Immunogen	E. coli-derived recombinant human IL-21 Gln25-Ser155 Accession # Q9HBE4		
Formulation	Lyophilized from a 0.2 µm filtered solution 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

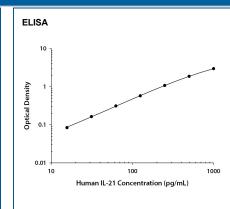
Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	1 μg/mL	See Below
ELISA	This antibody functions as an ELISA detection antibody when paired with Mouse Anti-Human IL-21 Monoclonal Antibody(Catalog # MAB1500).	
	•	led for assay development on various assay platforms requiring antibody pairs. We an IL-21 DuoSet ELISA Kit (Catalog # DY8879-05) for convenient development of a sandwich





Detection of Human IL-21 by Western Blot. Western Blot shows lysates of human CD4+ T cells (negative control) and human CD4+ Th17 cells. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human IL-21 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF15001) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for IL-21 at approximately 18 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.



Human IL-21 ELISA Standard Curve. Recombinant Human IL-21 protein was serially diluted 2fold and captured by Mouse Anti-Human IL-21 Monoclonal Antibody(Catalog # MAB1500) coated on a Clear Polystyrene Microplate (Catalog # DY990). Goat Anti-Human IL-21 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF15001) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

PREPARATION AND STORAGE

Reconstitution Reconstitute at 0.2 mg/mL in sterile PBS.

ShippingThe 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

- 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

Interleukin-21 (IL-21) is an approximately 14 kDa four-helix-bundle member of the family of cytokines that utilize the common gamma chain (γ_c) as a receptor subunit. γ_c is also a subunit of the receptors for IL-2, IL-4, IL-7, IL-9, and IL-15 (1). IL-21 is produced by activated T follicular helper cells (Tfh), Th17 cells, and NKT cells (2-6). It exerts its biological effects through a heterodimeric receptor complex of γ_c and the IL-21-specific IL-21 R (2, 7). Tfh-derived IL-21 plays an important role in the development of humoral immunity through its autocrine effects on the Tfh cell and paracrine effects on immunoglobulin affinity maturation, plasma cell differentiation, and B cell memory responses (4, 8, 9). It is also required for the migration of dendritic cells to draining lymph nodes (10). IL-21 regulates several aspects of T cell function. It co-stimulates the activation, proliferation, and survival of CD8⁺ T cells and NKT cells and promotes Th17 cell polarization (3, 5, 6, 11, 12). It blocks the generation of regulatory T cells and their suppressive effects on CD4⁺ T cells (13, 14). IL-21 R engagement enhances the cytolytic activity and IFN- γ production of activated NK cells but limits the expansion of resting NK cells (15). In addition, IL-21 suppresses cutaneous hypersensitivity

reactions by limiting allergen-specific IgE production and mast cell degranulation (16). Dysregulation of the IL-21/IL-21 R system contributes to the development of multiple immunological disorders (1, 17). The 133 amino acid (aa) mature human IL-21 shares 63% and 61% aa sequence identity with mouse and rat IL-21, respectively. Alternative splicing generates an additional isoform with a substitution of the C-terminal 16 amino acids (18).

References:

- 1. Tangye, S.G. (2015) Curr. Opin. Immunol. 34:107.
- 2. Parrish-Novak, et al. (2000) Nature 408:57.
- 3. Coquet, J.M. et al. (2007) J. Immunol. 178:2827.
- 4. Vogelzang, A. et al. (2008) Immunity 29:127.
- 5. Korn, T. et al. (2007) Nature 448:484.
- 6. Nurieva, R. et al. (2007) Nature 448:480.
- 7. Asao, H. et al. (2001) J. Immunol. 167:1.
- 8. Zotos, D. *et al.* (2010) J. Exp. Med. **207**:365.
- 9. Rankin, A.L. et al. (2011) J. Immunol. 186:667.
- 10. Jin, H. et al. (2009) J. Clin. Invest. 119:47.
- 11. Frohlich, A. et al. (2009) Science 324:1576.
- 12. Yi, J.S., et al. (2009) Science 324:1572.
- 13. Peluso, I. et al. (2007) J. Immunol. 178:732.
- 14. Bucher, C. et al. (2009) Blood 114:5375.
- 15. Kasaian, M.T. et al. (2002) Immunity 16:559.
- 16. Tamagawa-Mineoka, R. et al. (2011) J. Invest. Dermatol. 131:1513.
- 17. Ma, J. et al. (2011) Cytokine 56:133.
- 18. Rahman, M. et al. (2007) FEBS Lett. 581:4001.

