

DESCRIPTION

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| Species Reactivity | Human |
| Specificity | Detects human IL-21 in direct ELISAs. |
| Source | Polyclonal Goat IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | <i>E. coli</i> -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 | <p>This antibody functions as an ELISA detection antibody when paired with Mouse Anti-Human IL-21 Monoclonal Antibody(Catalog # MAB1500).</p> <p>This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human IL-21 DuoSet ELISA Kit (Catalog # DY8879-05) for convenient development of a sandwich ELISA.</p> | |

DATA

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| <p>Western Blot</p> <p>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.</p> | <p>ELISA</p> <p>Human IL-21 ELISA Standard Curve. Recombinant Human IL-21 protein was serially diluted 2-fold 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).</p> |
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PREPARATION AND STORAGE

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| 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 | <p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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-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:

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