

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived
Cys20-Pro236, with a C-terminal 6-His tag
Accession # Q9HBE5

N-terminal Sequence Analysis Cys20

Predicted Molecular Mass 26 kDa

SPECIFICATIONS

SDS-PAGE 45-53 kDa, reducing conditions

Activity Measured by its ability to inhibit IL-21-dependent proliferation of N1186 human T cells Parrish-Novak, J. *et al.* (2000) Nature **408**:57. The ED₅₀ for this effect is typically 0.6-3.6 µg/mL in the presence of 100 ng/mL of recombinant human IL-21.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

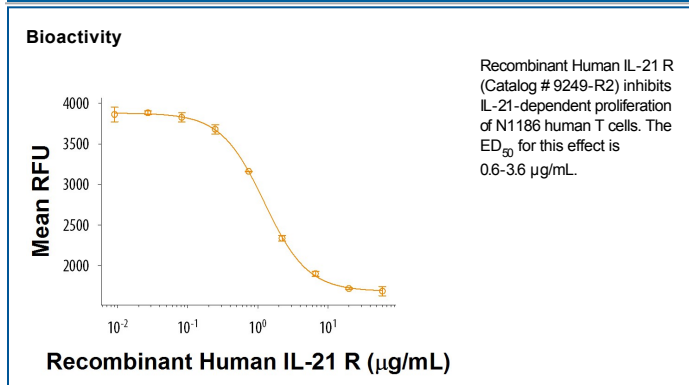
Reconstitution Reconstitute at 500 µg/mL in PBS.

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.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

Interleukin-21 Receptor (IL-21 R) is a type I transmembrane glycoprotein within the class I cytokine receptor family (1). IL-21 R associates with the common γ chain (γ_c) which is also a component of the receptors for IL-2, IL-4, IL-7, IL-9, and IL-15 (2, 3). Mature human IL-21 R consists of a 213 amino acid (aa) extracellular domain (ECD) with 4 conserved cysteine residues, a fibronectin type III domain, and a WSxWS motif, followed by a 21 aa transmembrane domain and a 285 aa cytoplasmic domain with a Box 1 motif, a kinase domain, and several sites for tyrosine phosphorylation (4, 5). Within the ECD, human IL-21 R shares 69% aa identity with mouse and rat IL-21 R, respectively. IL-21 R is expressed mainly on B cells (highest on mature, activated, follicular and germinal center B cells), NK cells, and activated T cells, but is also found on dendritic cells, alternatively activated macrophages, intestinal lamina propria fibroblasts and epithelial cells, and keratinocytes (1, 4, 5). Both IL-21 and IL-4 are necessary for efficient B cell IgG1 production and normal germinal center architecture (6). B cell IL-21 R engagement induces Blimp-1 (which mediates plasma cell differentiation) and is important for memory responses (7, 8). IL-21 R engagement enhances NK cell mediated cytotoxic activity and IFN- γ production (4, 9), control of viral infection and tumor growth by CD8⁺ T cells (10), development of regulatory T cells (11), IL-23 responsiveness of encephalitogenic Th17 cells (12), but suppresses the accumulation of IL-17 secreting $\gamma\delta$ T cells in the airway (13). IL-21 R expression is often upregulated in allergic skin inflammation, systemic lupus erythematosus and diffuse large B cell lymphoma (DLBCL) (14, 15).

References:

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