Recombinant Human IL-21R Fc Chimera

Catalog Number: 991-R2

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived human IL-21R protein

Human IL-21 R Subunit (Cys20-Pro236) Accession # Q9HBE5	DIEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Cys20
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	51.7 kDa (monomer)

SPECIFICATIONS

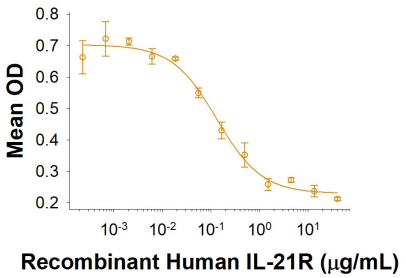
SDS-PAGE	80-85 kDa, reducing conditions
Activity	Measured by its ability to inhibit IL-21-dependent enhancement of IFN-γ secretion in NK-92 human natural killer lymphoma cells. The ED_{50} for this effect is 40-400 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
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 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. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Measured by its ability to inhibit IL-21-dependent enhancement of IFN-γ secretion in NK-92 human natural killer lymphoma cells. The ED_{50} for this effect is 40-400 ng/mL.

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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, IL-13, 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 253 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 γδ 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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