Cytokines

Human Recombinant IL-21

Interleukin 21

Catalog #	78082	10 µg
	78082.1	50 µg

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Product Description

Interleukin 21 (IL-21) is a pleiotropic cytokine that is composed of four α-helical bundles and primarily produced by natural killer T (NKT) cells, T follicular helper (Tfh) cells, and Th17 cells (Spolski & Leonard 2008). IL-21 signals via heterodimers of the IL-21 receptor (IL-21R) and the IL2RG encoded common cytokine receptor γ-chain (Parrish-Novak et al.; Ozaki K et al. 2000), and utilizes the JAK/STAT, MAPK, and PI3K pathways (Spolski & Leonard 2014). IL-21 has been shown to have a critical role in regulating immunoglobulin production and differentiation of the pro-inflammatory Th17 population of cells (Ozaki et al. 2002; Nurieva et al.). Additionally, IL-21 specifically sustains CD8+ T cell effector activity and provides a mechanism of CD4+ T cell help during chronic viral infection (Elsaesser et al.). IL-21 signaling was also found critical for the development of type 1 diabetes in NOD mice (Sutherland et al.) and control of T cell autoimmunity by regulatory B cells (Yoshizaki et al.).

Product Information

Alternative Names:	Interleukin-21, Za11
Accession Number:	Q9HBE4
Amino Acid Sequence:	MQDRHMIRMR QLIDIVDQLK NYVNDLVPEF LPAPEDVETN CEWSAFSCFQ KAQLKSANTG NNERIINVSI KKLKRKPPST NAGRRQKHRL TCPSCDSYEK KPPKEFLERF KSLLQKMIHQ HLSSRTHGSE DS
Predicted Molecular Mass:	15.4 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	E. coli

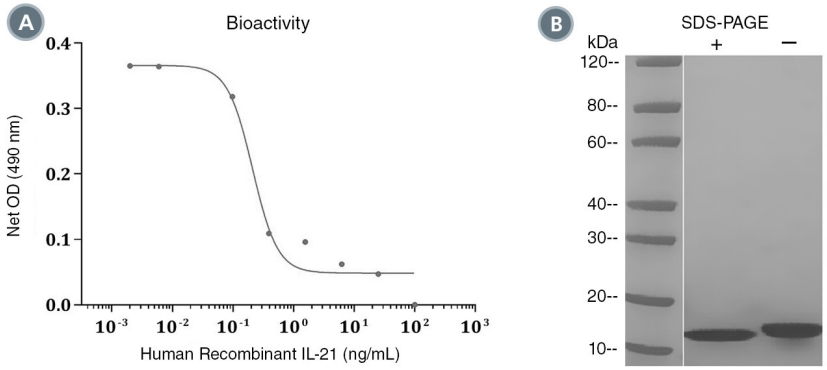
Specifications

Activity:	The specific activity is ≥ 2 x 10^6 units/mg (EC50 ≤ 0.5 ng/mL) as determined by the ability to inhibit growth of Mino cells.
Purity:	≥ 95 %
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Resuspend the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 2 weeks or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-21 was tested by its ability to inhibit the proliferation of Mino cells. Inhibition of cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation inhibition is at 50% of maximum. The EC50 in the above example is less than 0.5 ng/mL.
(B) 2 µg of Human Recombinant IL-21 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-21 has a predicted molecular mass of 15.4 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Elsaesser H et al. (2009) IL-21 is required to control chronic viral infection. Science 324(5934): 1569–72.
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