

Recombinant Human Interleukin-21 (IL-21)

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Catalog Number:	PHC0214	PHC0215	PHC0211	PHC0213
Quantity:	10 µg	25 µg	100 µg	1 mg
Lot Number:	See product label.			
Molecular Weight:	~15 kDa			
Purity:	>95% as determined by SDS-PAGE analysis.			
Amino Acid Sequence:	QDRHMIRMQR LIDIVDQLKN YVNDLVPEFL PAPERDVTNC EWSAFSCFQK AQLKSANTGN NERIINVSIK KLKRPSTN AGRRQKHRLT CPSCDSYEKK PPKEFLERFK SLLQKMIHQH LSSRTHGSED S			
Biological Activity:	ED ₅₀ range = 1.0–5.0 ng/mL (Specific Activity: 1.0 × 10 ⁶ –2.0 × 10 ⁵ units/mg), determined by the dose-dependent secretion of Interferon gamma by human natural killer lymphoma NK-92 cells. The optimal concentration for each specific application should be determined by an initial dose-response assay.			
Formulation:	Lyophilized, carrier free.			
Sterility:	Filtered prior to lyophilization through 0.22 micron sterile filter.			
Endotoxin:	<0.1 ng/µg			
Production:	Recombinant human IL-21 is produced in <i>E. coli</i> and purified via sequential chromatography.			
Reconstitution Recommendation:	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute lyophilized recombinant human IL-21 in sterile, distilled water to a concentration of 0.1–1.0 mg/mL. Further dilutions should be made in low endotoxin medium or a buffered solution containing a carrier protein such as heat inactivated FCS or tissue culture grade BSA.			
Suggested Working Dilutions:	The optimal concentration should be determined for each specific application.			
Storage:	Store lyophilized recombinant human IL-21 at 2°C to 8°C, preferably desiccated. Upon reconstitution, apportion into working aliquots and store at ≤ -20°C. Avoid repeated freeze/thaw cycles.			
Expiration Date:	Expires one year from date of receipt when stored as instructed.			
References:	<p>Dumoutier, L., E. Van Roost, D. Colau, and J.-C. Renauld (2000) Human interleukin-10-related T cell-derived inducible factor: Molecular cloning and functional characterization as an hepatocyte-stimulating factor. <i>Proc. Nat'l. Acad. Sci.</i> 97:10144–10149.</p> <p>Parrish-Novak, J., S.R. Dillon, A. Nelson, et al. (2000) Interleukin 21 and its receptor are involved in NK cell expansion and regulation of lymphocyte function. <i>Nature</i> 408:57–63.</p> <p>Brenne, A.T., T. Baade Ro, A. Waage, A. Sundan, M. Borset, and H. Hjorth-Hansen (2002) Interleukin-21 is a growth and survival factor for human myeloma cells. <i>Blood</i> 99:3756–3762.</p> <p>Habib, T., S. Senadheera, K. Weinberg, and K. Kaushansky (2002) The common gamma chain (gamma c) is a required signaling component of the IL-21 receptor and supports IL-21-induced cell proliferation via JAK3. <i>Biochemistry</i> 41:8725–8731.</p> <p>Parrish-Novak, J., D.C. Foster, R.D. Holly, and C.H. Clegg (2002) Interleukin-21 and the IL-21 receptor: Novel effectors of NK and T cell responses. <i>J. Leukoc. Biol.</i> 72:856–863.</p> <p>Zhang, J.L., D. Foster, and W. Sebald (2003) Human IL-21 and IL-4 bind to partially overlapping epitopes of common gamma-chain. <i>Biochem. Biophys. Res. Commun.</i> 300:291–296.</p>			

Explanation of Symbols

The symbols present on the product label are explained below:

Symbol	Description
	Catalog Number
	Research Use Only
	Use by
	Manufacturer
	Without, does not contain
	Protect from light
	Directs the user to consult instructions for use (IFU), accompanying the product.

Symbol	Description
	Batch code
	In vitro diagnostic medical device
	Temperature limitation
	European Community authorized representative
	With, contains
	Consult accompanying documents

Limited Use Label License: Research Use Only

The purchase of this product conveys to the purchaser the limited, non-transferable right to use the purchased amount of the product only to perform internal research for the sole benefit of the purchaser. No right to resell this product or any of its components is conveyed expressly, by implication, or by estoppel. This product is for internal research purposes only and is not for use in commercial applications of any kind, including, without limitation, quality control and commercial services such as reporting the results of purchaser's activities for a fee or other form of consideration. For information on obtaining additional rights, please contact outlicensing@lifetech.com or Out Licensing, Life Technologies, 5791 Van Allen Way, Carlsbad, California 92008.

For Research Use Only. Caution: Not for human or animal therapeutic or diagnostic use.

Manufactured under ISO 13485 Quality Standard

Manufacturing site: 7335 Executive Way | Frederick, MD 21704 | Toll Free in USA 800.955.6288

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