TECHNICAL DATA SHEET

Equivalent Performance, Exceptional Value

Recombinant Human IL-21 (Carrier-free)

Catalog Number: 21-8219

RPx-Pro™ Recombinant Protein
PRODUCT INFORMATION

CONTENTS
Recombinant Human IL-21 (Carrier-free)

DESCRIPTION
IL-21 is a pleiotropic cytokine produced by CD4+ T cells in response to antigenic stimulation. Its action generally enhances antigen-specific responses of immune cells. The biological effects of IL-21 include induction of differentiation of T cells and stimulation of B cells into plasma cells and memory B cells. Additionally, IL-21 promotes the anti-tumor activity of CD8+ T cells and NK cells. IL-21 exerts its effect through binding to a specific type I cytokine receptor, IL-21R, which also contains the common gamma chain found in other cytokine receptors including IL-2, IL-4, IL-7, IL-9 and IL-15. The IL-21/IL-21R interaction triggers a cascade of events which includes activation of the tyrosine kinases JAK1 and JAK3, followed by activation of the transcription factors STAT1 and STAT3.

MOLECULAR MASS
Recombinant Human IL-21 is a 15.4 kDa protein consisting of 132 amino acid residues.

AMINO ACID SEQUENCE
MQDRHMIRMR QLIDIVDQLK NYVNDLVPEF LPAPEDVETN CEWSAFSCFQ KAQLKSANTG NNERIINVSI KKLKRKPPST NAGRRQKHRL TCPSCDSYEK KPPKEFLERF KSLLQKMIHQ HLSSRTHGSE DS

SOURCE	APPLICATIONS	PURITY	STORAGE
E. Coli	Bioassay	98 %	-20°C

PROTEIN CONTENT
Content Verified by UV Spectroscopy and/or SDS-PAGE

ENDOTOXIN LEVEL
Endotoxin level is <0.1 ng/µg of protein (<1 EU/µg).

AUTHENTICITY
Verified by N-terminal and Mass Spectrometry analyses (when applicable).

CROSS REACTIVITY
Mouse

BIOACTIVITY
Assay #1: Determined by its ability to proliferate activated B cells. **Assay #2**: Determined by its ability to induce human CD40L-activated naïve B cells to undergo Ig isotype switching to IgG, using an IL-21 concentration of 50 ng/ml. Maximal activity was achieved after approximately five cell divisions.

RESEARCH AREAS
Apoptosis; Cancer; Immune System; Stem Cells & Differentiation

RECONSTITUTION
See Certificate of Analysis (COA) for lot specific reconstitution information.

REFERENCES
Parrish-Novak J, SR Dillon, A Nelson, A Hammond, C Sprecher, JA Gross, J Johnston, K Madden, W Xu, J West, S Schrader, S Burkhead, M Heipel, C Brandt, JL Kuijper, J Kramer, D Conklin, SR Presnell, J Berry, F Shiota, S Bort, K Hambly, S Mudri, C Clegg, M Moore, FJ Grant, C Lofton-Day, T Gilbert, F Rayond, A Ching, L Yao, D Smith, P Webster, T Whitmore, M Maurer, K Kaushansky, RD Holly and D Foster 2000 Nature 408: 57–63.Chtanova T, SG Tangye, R Newton, N Frank, MR Hodge, MS Rolph and CR Mackay 2004 J Immunol 173: 68–78.Wei L, A Laurence, KM Elias and JJ O'Shea 2007 J Biol Chem 282: 34605–34610.Wurster AL, VL Rodgers, AR Satoskar, MJ Whitters, DA Young, M Collins and MJ Grusby 2002 J Exp Med 196: 969–977. Lamprecht B, S Kreher, I Anagnostopoulos, K Johrens, G Monteleone, F Junt, H Stein, M Janz, B Dorken and S Mathas 2008 Blood 112: 3339–3347.