Recombinant Human IL-22

Catalog Number: 782-IL

DESCRIPTION

Source	*E. coli*-derived Ala34-Ile179, with an N-terminal Met Accession # Q9GZX6
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	16.5 kDa

SPECIFICATIONS

Activity	Measured by its ability to induce IL-10 secretion in COLO 205 human colorectal adenocarcinoma cells. Nagalakshmi, M.L. *et al.* (2004) International Immunopharmacology **4**:679. The ED_{50} for this effect is typically 60-300 pg/mL.
Endotoxin Level	<1.0 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 with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 10 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
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.

BACKGROUND

Interleukin-22 (IL-22), also known as IL-10-related T cell-derived inducible factor (IL-TIF) was initially identified as a gene induced by IL-9 in mouse T cells and mast cells. Human IL-22 cDNA encodes a 179 amino acid (aa) residue protein with a putative 33 aa signal peptide that is cleaved to generate a 147 aa mature protein that shares approximately 79% and 22% aa sequence identity with mouse IL-22 and human IL-10, respectively. The human IL-22 gene is localized to chromosome 12q15. Although it exists as a single copy gene in human and in many mouse strains, the mouse IL-22 gene is duplicated in some mouse strains including C57B1/6, FVB and 129. The two mouse genes designated IL-TIFα and IL-TIFβ, share greater than 98% sequence homology in their coding region. IL-22 has been shown to activate STAT-1 and STAT-3 in several hepatoma cell lines and upregulate the production of acute phase proteins. IL-22 is produced by normal T cells upon anti-CD3 stimulation in humans. Mouse IL-22 expression is also induced in various organs upon lipopolysaccharide injection, suggesting that IL-22 may be involved in inflammatory responses. The functional IL-22 receptor complex consists of two receptor subunits, IL-22R (previously an orphan receptor named CRF2-9) and IL-10Rβ (previously known as CRF2-4), belonging to the class II cytokine receptor family.

References:

1. Dumoutier, L. *et al.*, (2000) J. Immunol. **164**:1814.
2. Xie, M-H. *et al.*, (2000) J. Biol. Chem. **275**:31335.
3. Dumoutier, L. *et al.*, (2000) PNAS **97**:10144.
4. Kotenko, S.V. *et al.*, (2001) J. Biol. Chem. **276**:2725.