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Product Data Sheet

Recombinant Human IL-22 (carrier-free)

Catalog # / Size: 571302 / 10 µg
571304 / 25 µg
571306 / 100 µg
571308 / 500 µg

Source: Human IL-22, amino acids Ala34-Ile179 (Accession # NM_020525) was expressed in *E. coli.*

Molecular Mass: The 147 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 16,880 Da. The DTT-reduced protein migrates at approximately 15kDa and the non-reduced protein migrates at approximately 14kDa by SDS-PAGE.

Purity: Purity is >98%, as determined by Coomassie stained SDS-PAGE.

Endotoxin Level: Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein as determined by the LAL method.

Activity: The ED_{50} is 0.062-0.177 ng/ml, corresponding to a specific activity of 1.61-0.56 $X10^7$ units/mg, as determined by a dose dependent stimulation of human Colo205 cells in production of IL-10.

Preparation: 10-100µg sizes are bottled at 200µg/mL. 500µg sizes and larger are bottled at the concentration indicated on the vial.

Formulation: 0.22 µm filtered protein solution is in 10mM NaH_2PO_4, 150mM NaCl, pH7.2.

Storage: Unopened vial can be stored at 4°C for three months, at -20°C for six months, or at -70°C for one year. For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10µg/mL in buffer containing carrier protein such as 1% BSA or HSA or 10% FBS. For long term storage, aliquot into polypropylene vials and store in a manual defrost freezer. **Avoid repeated freeze/thaw cycles.**

Applications:

Applications: Bioassay

Recommended Usage: Use when high specific biological activity is required.

Application Notes: Ligand Blocking: This IL-22 protein is useful as a ligand-blocking specificity control for immunohistochemical or immunofluorescent staining.
Bioassay: This IL-22 protein is biologically active, and can be used for in vitro assays.

Application References:
1. Dhiman R, *et al*. 2009. *J. Immunol*. 183:6639. Pubmed

Description: IL-22 is a cytokine structurally related to IL-10. It was originally identified in mouse as a gene induced by IL-9 in T cells and mast cells.IL-22 was initially designated as ILTIF (IL-10-related T cell-derived inducible factor). IL-22 belongs to a family of cytokines with limited homology to IL-10, namely Il-10, IL-19, IL-20, IL-24, IL-26, IL-28A, IL-28B and IL-29 (the later three also known as IFN-λ). Human IL-22 shares 79% amino acid identity with mouse IL-22 and 25% identity with human IL-10. IL-22 biological activity is initiated by the binding to a cell surface complex composed of IL-22R1 and IL-10R2 receptor chains and further regulated by interactions with a soluble binding protein, IL-22BP, which share sequence similarity with an extracellular region of IL-22R1 (sIL-22R1). Both chains of the IL-22R complex belong to the class II CRF. Two types of IL-22 binding receptors have been discovered, a membrane-bound receptor and a soluble receptor, both encoded by different genes. IL-22 is produced by immune cells and acts on nonimmune cells to regulate local tissue inflammation. As a product of T helper 17 lineage of CD4 (+) effector lymphocytes, IL-22 plays a critical role in mucosal immunity as well as in deregulated inflammation observed in autoimmune diseases.

Antigen References:
1. Nagalakshmi ML, *et al.* Intern Immunopharmacol 4:679-691 2004.
2. Kebir H, *et al. Nat. Med.* 13:1173-1175 2007.
3. Gu Y, *et al. Eur. J. Immunol.* 38:1807-1813 2008.
4. Pene J, *et al. J. Immunol.* 180:7423-7430 2008.
5. Dumotier L, *et al. J immune* 164:1814-1819 2000.
6. Xie MH, *et al. J. Biol. Chem.* 765:31335-31339 2000.
7. Jones BC, *et al. Structure* July 2 2008.
8. Kotenko SV, *et al. J. Immunol.* 166:7096-71033 2001.
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