

## Recombinant Rat Interleukin-22 (rr IL-22)

**Synonyms:** IL-TIF, TIFa, IL-10-related T-cell-derived-inducible factor,

**Introduction:** Interleukin-22 was initially identified as a gene induced by IL-9 in mouse T cells and mast cells. It belongs to the IL-10 related cytokine family that consists of six members (IL-10, IL-19, IL-20, IL-22, IL-24 and IL26). These proteins share structural homology and some degree of amino acid sequence homology to IL-10. Receptors for these proteins are members of the class II cytokine receptor family. Rat IL -22 cDNA predicts a 179 amino acid (aa) residue precursor protein with a putative 33 aa signal peptide that is cleaved to generate a 147 aa mature protein, which shares approximately 92% and 79% aa sequence identity with mouse and human IL-22, respectively. IL-22 signals through a heterodimeric receptor complex composed of the IL-22R (CRF29) subunit and the  $\alpha$  chain of IL-10R(CRF24). In addition, IL-22 also binds to a secreted member of the class II cytokine receptor family called IL-22BP that acts as a natural IL-22 antagonist. IL-22 upregulates acute phase reactants in the liver and hepatoma cells. In a rat hepatoma cell line, IL-22 has been shown to activate the Jak/STAT and MAPK signaling pathways (3).

**Description:** Recombinant rat Interleukin-22 produced in E.Coli is a single polypeptide chain containing 179 amino acids and having a molecular mass of 16.7 kDa. The rat IL-22 is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*.

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** Lyophilized from a 0.22  $\mu$ m filtered solution in 25 mM Tris, 200 mM NaCl, pH 8.0  
The aliquotes of 1  $\mu$ g and 2  $\mu$ g contain Trehalose 5% (w/vol) for better recovery

**Solubility:** It is recommended to reconstitute the lyophilized rr IL-22 in sterile water not less than 100  $\mu$ g/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rr IL-22 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rr IL-22 should be stored for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Purity:** Greater than 95.0% as determined by SDS-PAGE.

**Amino acid sequence:** MLPINSQCKL EAANFQQPYI VNRTFMLAKE ASLADNNTDV RLIGEELFRG  
VKAKDQCYLM KQVLNFTLED VLLPQSDRFQ PYMQEVVPFL TKLSIHLSPC HISGDDQNIQ  
KNVRQLKETV QKLGESGEIK AIGELDLLFM SLRNACV

**Endotoxicity:** The endotoxin level is less than 1 EU /  $\mu$ g determined by LAL method

**Biological Activity:** Determined by its ability to activate STAT following receptor ligand interaction - analysis of IL-22 receptor driven STAT activation in human cell line HT-29

This material is offered for **research only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	2 $\mu$ g	Cat.N°	13340222
<i>medium</i>	10 $\mu$ g	Cat.N°	13340223
<i>large</i>	50 $\mu$ g	Cat.N°	13340225
<i>x-large</i>	250 $\mu$ g	Cat.N°	13340227
<i>xx-large</i>	1000 $\mu$ g	Cat.N°	13340228

**ImmunoTools** Excellent Quality - Advantageously priced

Gladiolenweg 2; 26169 Friesoythe; Germany  
phone:+49-(0)4491-400997, fax:+49-(0)4491-400998, [info@immunotools.com](mailto:info@immunotools.com)  
[www.immunotools.com](http://www.immunotools.com)