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<b>Products</b>	Human IL-22, research grade. Recombinant human interleukin 22.								
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2	130-096-294								
10	130-096-295								
100	130-096-297								
<b>Biological activity</b>	The ED <sub>50</sub> is ≤1 ng/mL corresponding to an activity of ≥1×10 <sup>6</sup> U/mg. <b>Note:</b> The ED <sub>50</sub> is determined by the ability of COLO 205 cells to induce IL-10 secretion.								
<b>Primary structure</b>	Two identical, non-glycosylated polypeptide chains (147 amino acid residues each, including an N-terminal methionine).								
<b>Molecular mass</b>	33.6 kDa (dimer).								
<b>Source</b>	Produced in <i>E. coli</i> .								
<b>Product format</b>	Lyophilized from a filtered (0.2 µm) buffer solution.								
<b>Stabilizer</b>	None.								
<b>Purity</b>	>97% as determined by SDS-PAGE analysis.								
<b>Endotoxin level</b>	Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.								
<b>Storage</b>	Lyophilized Human IL-22, research grade should be stored at -20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at -20 °C or below. Avoid repeated freeze-thaw cycles.								
<b>Reconstitution</b>	It is recommended to reconstitute lyophilized Human IL-22, research grade with deionized sterile-filtered water to a final concentration of 0.05–1.0 mg/mL in a minimal volume of 40 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.								

#### 1.1 Background information

Interleukin 22 (IL-22), also known as IL-10-related T cell-derived inducible factor (IL-TIF), is a member of the IL-10 family which consists of potent mediators of cellular inflammatory response. IL-22 is expressed by innate and adaptive immune cells, including

NK cells, lymphoid tissue inducer-like cells, T<sub>H</sub>17 cells, and T<sub>H</sub>22 cells. IL-22 acts directly on non-hematopoietic cells. It induces its signals through a two-component receptor comprised of IL-22R1 and IL10Rβ, belonging to the class II cytokine receptor family. The receptor is expressed only on the surface of epithelial cells and some fibroblasts in organs like gut, lung, skin, and liver. IL-22 has been shown to act cooperatively with IL-17A and IL-17F to enhance expression of acute-phase proteins. Members of the IL-10 family show partial homology in their amino acid sequences, but show distinct biological functions. Human and mouse IL-22 proteins share 81% amino acid identity.

#### 1.2 Applications

Human IL-22 may be used for a variety of applications, including:

- *In vitro* stimulation of keratinocytes, hepatocytes, and macrophages.
- Migration and proliferation assays, e.g., in the context of wound healing and tissue regeneration.
- Investigation of IL-22-mediated signaling pathways.

Optimal concentration for a specific application should be determined by a dose-response experiment.

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