

## IL-21, human recombinant protein

### Information

<b>Gene ID</b>	59067
<b>Accession #</b>	Q9HBE4
<b>Alternate Names</b>	Za11
<b>Source</b>	<i>Escherichia coli</i> .
<b>M.Wt</b>	Approximately 15.4 kDa, a single non-glycosylated polypeptide chain containing 133 amino acids.
<b>AA Sequence</b>	QQQDRHMIRM RQLDIVDQL KNYVNDLVPE FLPAPEDVET NCEWSAFSCF QKAQLKSANT GNNERIINVS IKKLKRKPPS TNAGRQKHR LTCPSCDSYE KKPPKEFLER FKSLQKMIH QHLSSRTHGS EDS
<b>Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Stability &amp; Storage</b>	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.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
<b>Reconstitution</b>	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
<b>Biological Activity</b>	Fully biologically active when compared to standard. Measured by its ability to enhance IFN-gamma secretion in NK-92 human natural killer lymphoma cells. The ED <sub>50</sub> for this effect is ≤ 2 ng/mL. The specific activity of recombinant human IL-21 > 5.0 × 10 <sup>5</sup> U/mg.
<b>Shipping Condition</b>	Gel pack.
<b>Handling</b>	Centrifuge the vial prior to opening.
<b>Usage</b>	For Research Use Only! Not to be used in humans.

### Components and Storage

Components	10 µg	100 µg	500 µg
IL-21, human recombinant protein	10 µg	100 µg	500 µg

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## Quality Control

Purity	> 97 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rHuIL-21 as determined by LAL method.

## Description

Human IL-21 is encoded by IL-21 gene located on Chr. 4. It is a pleiotropic cytokine produced by CD4+ T cells in response to antigenic stimulation and can regulating immune system cells, for instance cytotoxic T cells and natural killer cells. Additionally, it can induce target cells division or proliferation. IL-21 elicits its effect through binding to IL-21R, which also contains the gamma chain found in other cytokine receptors such as IL-2, IL-4, IL-7, IL-9 and IL-15. 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. IL-21 shows having much relation with clinical illnesses, including cancer immunotherapy, viral infections and allergies.

## Reference

1. Pistoia VandCocco C. 2009. J Leukoc Biol, 85: 739-43.
2. Ertelt JM, Johanns TM, Rowe JH, et al. 2010. Immunology, 131: 183-91.
3. Denman CJ, Senyukov VV, Somanchi SS, et al. 2012. PLoS One, 7: e30264.
4. Spolski R, Wang L, Wan CK, et al. 2012. J Immunol, 188: 1924-32.

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