

Recombinant Human Interleukin-21 GMP

Information

Gene ID	59067
Accession #	Q9HBE4
Alternate Names	Za11
Source	Escherichia coli.
M.Wt	Approximately 15.4 kDa, a single non-glycosylated polypeptide chain containing 133 amino acids.
AA Sequence	QGQDRHMIRM RQLDIVDQL KNYVNDLVPE FLPAPEDVET NCEWSAFSCF QKAQLKSANT GNNERIINVS IKKLKRKPPS TNAGRRQKHR LTCPSCDSYE KKPPKEFLER FKSLLQKMIH QHLSSRTHGS EDS
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - A minimum of 12 months when stored at $\leq -20^{\circ}\text{C}$ as supplied Refer to lot specific COA for the Use by Date - 1 month, 2 to 8°C under sterile conditions after reconstitution - 3 months, -20 to -70°C under sterile conditions after reconstitution
Formulation	Lyophilized from a $0.2\ \mu\text{m}$ filtered concentrated solution in PBS, pH 7.4.
Reconstitution	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 0.1-0.5 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	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 for this effect is $\leq 2\ \text{ng/mL}$. The specific activity of recombinant human IL-21 $> 5.0 \times 10\ \text{U/mg}$.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5 μg	100 μg	
Recombinant Human Interleukin-21 GMP	5 μg	100 μg	

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Quality Control

Purity	> 98 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 0.01 EU/ μg of rHuIL-21 GMP 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, Johans 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.

APExBIO Technology

www.apexbt.com

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com