Recombinant Human IL-12 Protein

Catalog Number: GMP-TL508

Product Name	
Generic Name	Recombinant Human IL-12 Protein
Synonym	IL12, p70, Interleukin-12

Product Information	
Protein sequence	Recombinant human IL-12 is heterodimeric and composed of P29459-1 (IL12A) and P29460-1 (IL12B).
Expression Host	HEK293 cells
QC Testing Purity	> 90 % as determined by SDS-PAGE
Activity	Determined by the dose-dependent secretion of interferon γ by human naturally killer lymphoma NK-92 cells. The expected ED_{50} for this effect is ≤ 2 ng/ml.
Endotoxin Level	< 0.1 EU per 1 μg of the protein by the LAL method.
Molecular Mass	The Recombinant Human IL-12 Protein predicts a molecular mass of 65 kD.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6% mannitol are added as protectants before lyophilization.
Stability & Storage	24 months at 2 °C to 8 °C in lyophilized state. 6 months at -20 °C under sterile conditions after reconstitution. 12 months at -80 °C under sterile conditions after reconstitution. Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100 μg/mL. Avoid repeated freeze-thaw cycles.

Background

IL-12 is primarily produced by monocytes, macrophages, B cells and DCs. IL-12 is a heterodimeric cytokine encoded by two separate genes, IL-12A (p35) and IL-12B (p40).IL-12 receptors are located mainly on T cells and NK cells, and IL-12 can stimulate Th1 and NK cell growth, while inhibiting Th2 cell responses. IL-12 augments cytotoxicity of T lymphocytes and NK cells through the enhancement of IFN-γ and TNF-α secretion, and inhibition of IL-4 production.

References

1. Frazão JB, Colombo M, Simillion C, Bilican A, Keller I, Wüthrich D, Zhu Z, Okoniewski MJ, Bruggmann R, Condino-Neto A, Newburger（2019）Gene expression in chronic granulomatous disease and interferon-γ receptor-deficient cells treated in vitro with interferon-γ. J Cell Biochem.120(3):4321-4332.