Recombinant Human IL-3 Protein

Product Name

Recombinant Human IL-3 Protein

Size / Catalog Number

50μg / GMP-TL511-0050

100μg / GMP-TL511-0100

Product Information

Synonyms: MCGF (Mast cell growth factor), Multi-CSF, HCGF, P-cell stimulation factor

Accession: UniProt P08700

Expressed Region: Ala20-Phe152(Asp101Ala & Lys116Trp)

Tag: C-terminal 6×His-tag

Predicted Expression system: HEK293 cells

Molecular weight: 15.9 kDa

Purity: > 95% as determined by SDS-PAGE

Endotoxin: < 0.1 EU per 1 μg of protein (LAL method)

Activity: Measured in a cell proliferation assay using TF-1 cells, corresponding to a specific activity of ≥ 2.0×10^5 IU/mg.

Form: Lyophilized from sterile PBS (pH7.4), typically supplemented with 6% mannitol as a protectant.

Background

The recombinant human Interleukin-3 (IL-3), also known as IL3, is a single-chain glycosylated polypeptide cytokine secreted by activated helper $CD4^+$ T lymphocytes, monocytes, macrophages, endothelial cells, and other cell types, belonging to the IL-3 family/interleukin group. As a potent growth-promoting factor, IL-3 engages specific cell surface receptors to effectively stimulate the proliferation and differentiation of pluripotent hematopoietic stem cells as well as various lineage-committed progenitors, playing a central role in the development and maintenance of the hematopoietic system. The function of the immune system depends critically on interleukins including IL-3, with rare deficiencies associated with autoimmune diseases or immunodeficiency. Notably, IL-3 amino acid sequences share relatively low identity across species, resulting in highly species-specific activity. Furthermore, IL-3 has been shown to possess neurotrophic activity and is thought to be implicated in the pathogenesis of certain neurologic disorders.

Stability & Storage

Lyophilized powder: Stable for 12 months at -80°C or 6 months at -20°C when stored in the original sealed container under desiccant.

Reconstitution: Dissolve in sterile water for injection, 0.9% NaCl, or PBS (pH7.4), maintaining a final concentration ≥ 100 μg/mL to prevent adsorption.

Handling: Aliquot to avoid repeated freeze-thaw cycles.

References

1. Coburn LA, Singh K, Asim M, *et al*. Loss of solute carrier family 7 member 2 exacerbates inflammation-associated colon tumorigenesis. Oncogene. 2019 Feb; 38(7): 1067-1079.

2. Khare S, Gokulan K, Williams K, *et al*. Irreversible effects of trichloroethylene on the gut

microbial community and gut-associated immune responses in autoimmune-prone mice. J Appl Toxicol. 2019 Feb; 39(2):209-220.

3. Barve A, Casson L, Krem M, *et al*. Comparative utility of NRG and NRGS mice for the study of normal hematopoiesis, leukemogenesis, and therapeutic response. Exp Hematol. 2018 Nov; 67:18-31.

Intended Us

For research and manufacturing purposes only.