



Genorise® Recombinant Canine IL-3 Protein

Catalog Number: GR122146

Background

Interleukin 3 (IL-3) is a protein that is encoded by the IL3 gene^[1] and it is called colony-stimulating factor; mast cell growth factor, MULTI-CSF, MCGF; MGC79398, MGC79399. The protein contains 152 amino acids and its molecular weight is 17 kDa and the naturally occurring IL-3 is glycosylated. IL-3 is produced as a monomer by activated T cells, monocytes/macrophages and stroma cells. The major function of IL-3 cytokine is to regulate blood-cell production. It induces proliferation and differentiation of early pluripotent stem cells and committed progenitors.^[2] Interleukin 3 acts by binding to the interleukin-3 receptor.^[3] IL-3/Receptor complex induces JAK2/STAT5 cell signalisation pathway. It can stimulate transcription factor c-myc (activation of gene expression) and Ras pathway (suppression of apoptosis). Interleukin 3 has been shown to interact with IL3RA.^[4] Interleukin 3 stimulates the differentiation of multipotent hematopoietic stem cells into myeloid progenitor cells or, with the addition of IL-7, into lymphoid progenitor cells. In addition, IL-3 stimulates proliferation of all cells in the myeloid lineage (granulocytes, monocytes, and dendritic cells), in conjunction with other cytokines, e.g., Erythropoietin (EPO), Granulocyte macrophage colony-stimulating factor (GM-CSF), and IL-6. It is secreted by basophils and activated T cells to support growth and differentiation of T cells from the bone marrow in an immune response.

References

1. Yang YC, et al. (1986). Cell. 47 (1): 3–10. doi:10.1016/0092-8674(86)90360-0. PMID 3489530.
2. Aglietta, M.; et al. (1996). Stem Cells. 11 (S2): 83–87.
3. Tabira T, et al. (1998). Ann. N. Y. Acad. Sci. 840 (1): 107–16.
4. Stomski FC, et al. (1996). Mol. Cell. Biol. 16 (6): 3035–46.

DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

**FOR LABORATORY RESEARCH USE ONLY
NOT FOR USE IN HUMANS AND ANIMALS**



Genorise® Recombinant Canine IL-3 Protein

Catalog Number: GR122146

Description

Sources: Expressed in *E. coli*.

Predicted Composition: Ala21-Pro143

UniProt Accession #: Q9BDX4

Predicted Molecular Weight: 14 kDa

Purity: > 95%, by SDS-PAGE under reducing conditions and visualized by silver staining.

Formulation: Lyophilized from a 0.2 µm filtered PBS solution containing BSA.

Reconstitution: Reconstitute at 100 µg/mL in sterile PBS with 1% BSA and store at -20°C ~ -70°C for up to 1 month.

Shipping and storage: The product is shipped at 4 °C with ice pad or at ambient temperature.

Upon receipt, store it immediately at -20°C to avoid loss of activity and use it in 6 months.

Related products

1. GR238016 50 ml Reagent Reservoir, 100/pack, 5 bags/pack (20/bag)
2. GR238004 Tissue Culture 96-well Microplate, individually packed, Case of 50
3. GR238019 1.5 ml Microcentrifuge tube with screw cap and free-standing, pack of 500
4. GR238007 125 ml leak-resistant HDPE bottle, colorless, pack of 24
5. GR238002 Microplate 12x8-Well Strip High Binding, Case of 50
6. GR238003 Microplate 12x8-Well Strip Medium Binding, Case of 50
7. GR238032 42592 Costar Stripwell Microplate 1 x 8 Flat Bottom, High Binding, Case of 100
8. GR238001 468667 Thermo Microplate 12x8-Well Strip Nunc Maxisorp F8, Case of 60
9. GR238031 96-well microplate sealer plastic, pack of 100