Genorise® Recombinant Canine IL-13 Protein Datasheet
Catalog Number: GR104235

Background

Interleukin 13 (IL-13) is a protein that is encoded by the *IL13* gene.[1][2][3] IL-13 is cytokine secreted by many cell types, but especially T helper type 2 (Th2) cells,[4] that is a mediator of allergic inflammation and disease. In addition to effects on immune cells that are similar to those of the closely related cytokine IL-4, IL-13 is more importantly implicated as a central mediator of the physiologic changes induced by allergic inflammation in many tissues. IL-13 induces its effects through a multi-subunit receptor that includes the alpha chain of the IL-4 receptor (IL-4Rα) and at least one of two known IL-13-specific binding chains.[4] The functions of IL-13 overlap considerably with those of IL-4, especially with regard to changes induced on hematopoietic cells, but these effects are probably less important given the more potent role of IL-4. Thus, although IL-13 can induce immunoglobulin E (IgE) secretion from activated human B cells. Rather than a lymphoid cytokine, IL-13 acts more prominently as a molecular bridge linking allergic inflammatory cells to the non-immune cells in contact with them, thereby altering physiological function. Although IL-13 is associated primarily with the induction of airway disease, it also has anti-inflammatory properties. Airway matrix metalloproteinases (MMPs), which are protein-degrading enzymes, are required to induce egression of effete parenchymal inflammatory cells into the airway lumen where they are then cleared. Among other factors, IL-13 induces these MMPs as part of a mechanism that protects against excessive allergic inflammation that predisposes to asphyxiation.

Reference

1. Minty A, et al. (1993). *Nature* **362** (6417): 248–50.
2. McKenzie AN, et al. (1993) *Proc. Natl. Acad. Sci. U.S.A.* **90** (8): 3735–9.
3. Morgan JG, et al.. *Nucleic Acids Res.* **20** (19): 5173–9.
4. Wynn TA (2003). "IL-13 effector functions". *Annu. Rev. Immunol.* **21**: 425–56.
5. Smith PC, et al (2001). Cytokine Growth Factor Rev. 12 (1): 33–40.
6. Hong, D.S. et al. (2007) Cancer 110, 1911-28.
7. Nishimoto N (2006). Curr Opin Rheumatol 18 (3): 277–81

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Description

Sources: Expressed in *E. coli*.

Compositions: Ser21-Arg131

Accession #: NP_001003384.1

Molecular weight: 12 kDa

Activity: Measured in a cell proliferation assay using TF1 human erythroleukemic cells.

Kitamura, T. *et al*. (1989) J. Cell Physiol. **140**:323.

The ED50 for this effect is typically 1- 3.3 ng/mL.

Endotoxin level: < 1.0 EU per 1 μg of the protein by the LAL method.

Purity: > 97%, by SDS-PAGE under reducing conditions and visualized by silver staining.

Formulation: Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein.

Reconstitution: Reconstitute at 100 μg/ml in sterile PBS with 0.1% BSA and store at -20°C ~ -70°C for up to 3 months.

Shipping and storage: The product is shipped at 4ºC 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.

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.

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