

Recombinant Canine Amphiregulin Protein DataSheet

Catalog Number: GR122143

Background

Amphiregulin (AREG) is a transmembrane glycoprotein with 252 amino acids that is encoded by the AREG gene.^{[1][2]} AREG is a member of the epidermal growth factor (EGF) family and a critical autocrine growth factor as well as a mitogen for astrocytes, Schwann cells, and fibroblasts. It is a ligand for EGF and related to transforming growth factor alpha (TGF- α). AREG interacts with the EGF receptor (EGFR) to promote the growth of normal epithelial cells. AREG is a critical factor in estrogen action and ductal development of the mammary glands.^{[3][4]} Amphiregulin is essential for mammary ductal development, as evidenced by absence of ductal growth in amphiregulin knockout mice,^[4] a similar phenotypes of EGFR and ER α knockout mice.^[4] Amphiregulin is expressed in many tissues and can be induced by TGF- α , TNF- α , interleukin 1, and prostaglandins.^[5] Overexpression of amphiregulin is connected with various cancer.^[5] Expression of AREG is connected with proliferation of fibroblasts and production of proinflammatory cytokines interleukin 8 and vascular endothelial growth factor (VEGF).^[6] Gene mutations are associated with a psoriasis-like skin phenotype.^[16] Higher circulating levels of amphiregulin are associated with AGVHD progression.^[7] Amphiregulin is part of cellular response type 2.^[8] It was found that the cell source of amphiregulin is innate lymphoid cells 2 (ILC2) which are dependent on interleukin 33. ILC2 expressed amphiregulin after tissue damage of the intestines and activation by IL-33. Moreover, endogenous AREG with IL-33 decreased the intestinal inflammation in mice with normal count of T-lymphocytes and in deficient mice.^[9]

References

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Description

Source: *E coli*-derived

Compositions: Ser101–Ala253

Accession # A0A8C0QJ13

Predicted Molecular Mass: 17 kDa (monomer)

Specifications

Activity Measured in a cell proliferation assay using Balb/3T3 mouse embryonic fibroblast cells. Marquard H (1984) Science 223:1079. The ED50 for this effect is typically 5-20 ng/mL.

Endotoxin Level: <0.01 EU per 1 µg of the protein by the LAL method.

Purity: >96%, by SDS-PAGE under reducing conditions and visualized by silver stain.

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

Preparation and Storage

Reconstitution: Reconstitute at 50-500 µg/mL in sterile PBS containing 1 mg/ml of human or serum albumin.

Shipping The product is shipped at ambient temperature or with wet ice. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage: Use a manual defrost freezer and avoid repeated freeze thaw cycles.

- 6 months, -20 °C as supplied.
- 3 months, -20 to -70°C under sterile conditions after reconstitution.

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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