Genorise® Recombinant Equine TGFβ3 DataSheet

Catalog Number: GR104016

Background

Transforming growth factor, beta 3 (TGF-β3) belongs to a large family of cytokines called the Transforming growth factor beta super family (1, 2), which includes the TGF-β family, bone morphogenetic proteins (BMPs), growth and differentiation factors (GDFs), inhibins and activins. TGF-β3 is expressed in numerous cells including epithelial cells (3). TGF-β3 is a Ser/Thr protein kinase and is believed to regulate molecules involved in cellular adhesion and extracellular matrix (ECM) formation during the process of palate development. Without TGF-β3, mammals develop a deformity known as a cleft palate (4). This is caused by failure of epithelial cells in both sides of the developing palate to fuse. TGF-β3 is involved in embryogenesis and cell differentiation. TGF-β3 signaling activates transcription of the LEF1 gene to induce epithelial mesenchymal transformation during mouse palate development (5). TGF-β3 functions in normal palate and lung morphogenesis and is implicated in epithelial-mesenchymal interaction (4). Together with other members of TGF-β, TGF-β3 functions via endoglin, an accessory protein that interacts with the receptors of the TGF-β family (6); TGF-β3 has interaction with the type I receptor ALK-1 (7).

References

1. ten Dijk P. et al. (1988) Proc. Natl. Acad. Sci. 85: 4715-9.
2. Derynck R. et al. (1989) EMBO J. 7:3737-43.
3. Djonov V. et al. (1997) Prostate 31: 103-9.
4. Kaartinen V. et al. (1995) Nature Genet. 11: 415-21.
5. Nawshad A. et al. (20030 J. Cell Biol. 163: 1291-1301.
6. Barbara NP et al. (1999) J. Biol. Chem. 274: 584-94.
7. Lux A et al. (1999) J. Biol. Chem. 274: 9984-92.

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Description

Source: *E coli* derived
Component: Ala301 –Ser412
Accession # NP_001492737.1
Structure/Form: disulfide-linked homodimer
Predicted Molecular Mass: 13 kDa (monomer)

Specifications

Activity Measured by its ability to inhibit the IL-4-dependent proliferation of HT-2 mouse T cells. Tsang, M et al. (1995) 7:389. The ED50 for this effect is typically 20-50 pg/mL.
Endotoxin Level: <1.0 EU per 1 μg of the protein by the LAL method.
Purity: >97%, by SDSPAGE under reducing conditions and visualized by silver stain.
Formulation: Lyophilized from a 0.2 μm filtered solution in Acetonitrile and TFA with BSA as a carrier protein.

Preparation and Storage

Reconstitution: To ensure recovery, reconstitute at 1-10 μg/mL in sterile 4 mM HCl containing 1 mg/ml of human or bovine serum albumin.
Shipping The product is shipped at ambient temperature. 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 from date of receipt, -20 to -70°C as supplied.
- 1 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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