Human Cripto / TDGF1 Protein (His Tag)

Catalog Number: **10908-H08H**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CR; CRGF; CRIPTO

Protein Construction:

A DNA sequence encoding the human TDGF1 (AAH22393.1) (Met 1-Thr 172) with a C-terminal polyhistidine tag was expressed.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA . Immobilized human TDGF1 at 2 μg/ml (100 μl/well) can bind human ALK4 with a linear range of 0.0068-0.16 μg/ml.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Leu 31

Molecular Mass:

The secreted recombinant human TDGF1 comprises 153 amino acids with a predicted molecular mass of 17.4 kDa. As a result of glycosylation, the apparent molecular mass of rhTDGF1 is approximately 25-30 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

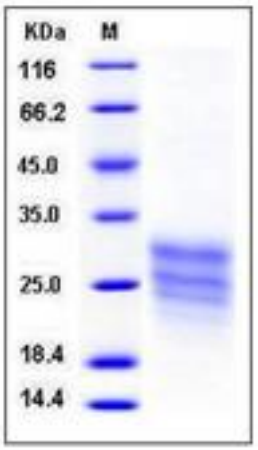
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Cripto/TDGF1 is a member of the epidermal growth factor (EGF)- Cripto, Frl-1, and Cryptic (CFC) family. EGF-CFC family member proteins share a variant EGF-like motif, a conserved cysteine-rich domain, and a C-terminal hydrophobic region. Before gastrulation, Cripto is asymmetrically expressed in a proximal–distal gradient in the epiblast, and subsequently is expressed in the primitive streak and newly formed embryonic mesoderm. These proteins play key roles in intercellular signaling pathways during vertebrate embryogenesis. Mutations in Cripto/TDGF1 can cause autosomal visceral heterotaxy. Cripto/TDGF1 is involved in left-right asymmetric morphogenesis during organ development. Cripto signalling is essential for the conversion of a proximal–distal asymmetry into an orthogonal anterior–posterior axis. The mechanism of inhibitory effects of the Cripto includes both cancer cell apoptosis, activation of c-Jun-NH(2)-terminal kinase and p38 kinase signaling pathways and blocking of Akt phosphorylation. Thus, Cripto is a unique target, and Immunohistochemistry to Cripto could be of therapeutic value for human cancers.

References

1.Calvanese L, *et al.* (2006) Solution structure of mouse Cripto CFC domain and its inactive variant Trp107Ala. J Med Chem. 49 (24): 7054-62. 2.Lonardo E, *et al.* (2010) A small synthetic cripto blocking Peptide improves neural induction, dopaminergic differentiation, and functional integration of mouse embryonic stem cells in a rat model of Parkinson's disease. Stem Cells. 28 (8): 1326-37. 3.Chambery A, *et al.* (2009) Qualitative and quantitative proteomic profiling of cripto(-/-) embryonic stem cells by means of accurate mass LC-MS analysis. J Proteome Res. 8 (2): 1047-58.