

TDGF1/Cripto Protein, Human, Recombinant (His)

General Information

Synonyms:	TDGF1;Cripto;CR;CRGF
Protein Construction:	Leu31-Thr172
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P13385
Molecular Weight:	16.92 kDa (predicted). Due to glycosylation, the protein migrates to 23-30 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Human ACVR1B, hFc Tag captured on CM5 Chip via Protein A can bind Human TDGF1, His Tag with an affinity constant of 0.16 μ M as determined in SPR assay (Biacore T200).
Purity:	> 95% as determined by Tris-Bis PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

TDGF1 (CRIPTO) is a member of the epidermal growth factor-Cripto-1/FRL-1/Cryptic (EGF/CFC) gene family and an obligate co-receptor involved in NODAL signaling, a developmental program implicated in midline, forebrain, and left-right axis development in model organisms. Cripto-1 is enriched in a subpopulation of embryonal, melanoma, prostate, and pancreatic cancer cells that possess stem-like characteristics. Therefore, Cripto-1 may play a role during developmental EMT, and it may also be involved in the reprogramming of differentiated tumor cells into

cancer stem cells through the induction of an EMT program.

Reference

de la Cruz JM, Bamford RN, Burdine RD, Roessler E, Barkovich AJ, Donnai D, Schier AF, Muenke M. A loss-of-function mutation in the CFC domain of TDGF1 is associated with human forebrain defects. *Hum Genet.* 2002 May;110(5):422-8. doi: 10.1007/s00439-002-0709-3. Epub 2002 Apr 10. PMID: 12073012.

(2) Rangel MC, Karasawa H, Castro NP, Nagaoka T, Salomon DS, Bianco C. Role of Cripto-1 during epithelial-to-mesenchymal transition in development and cancer. *Am J Pathol.* 2012 Jun;180(6):2188-200. doi: 10.1016/j.ajpath.2012.02.03Epub 2012 Apr 26. PMID: 22542493; PMCID: PMC3378914.

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