

Recombinant Human TGF-beta 3/TGFB3 protein (His tag)



Catalog Number:PDEH100271

Note: Centrifuge before opening to ensure complete recovery of vial contents.

Description

Synonyms	ARVD;ARVD1;LDS5;RNHF;TGFbeta 3;transforming growth factor beta-3
Species	Human
Expression Host	E.coli
Sequence	Ala 301-Ser 412
Accession	P10600
Calculated Molecular Weight	12.2 kDa
Observed molecular weight	30 kDa
Tag	N-His

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	Please contact us for more information.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Background

TGF-beta 3 (transforming growth factor-beta 3) is a member of a TGF-beta superfamily subgroup that is defined by their structural and functional similarities. TGF-beta 3 and its closely related proteins, TGF-beta 1 and ? beta 2, act as cellular switches to regulate immune function, cell proliferation, and epithelial-?mesenchymal transition. The non-redundant biological effects of TGF-? beta 3 include involvement in palatogenesis, chondrogenesis, and pulmonary development. Human TGF-beta 3 cDNA encodes a 412 amino acid (aa) precursor that contains a 20 aa signal peptide and a 392 aa proprotein. The proprotein is processed by a furin-?like convertase to generate a 220 aa latency-?associated peptide (LAP) and a 112 aa mature TGF-? beta 3. Mature human TGF-? beta 3 shows 100%, 99%, and 98% aa identity with mouse/dog/horse, rat, and pig TGF-? beta 3, respectively. TGF-beta 3 is secreted as a latent complex. This latent form of TGF-beta 3 is activated by integrins, thrombospondin-1, plasmin, and matrix metalloproteases. It can also be activated by extreme pH and reactive oxygen species. TGF-beta 3 binds with high affinity to TGF-beta RII, a type II serine/threonine kinase receptor. This receptor then phosphorylates and activates type I serine/threonine kinase receptors, TGF-? beta RI or ALK-?1, to modulate transcription through Smad phosphorylation. The divergent biological effects exerted by individual TGF-beta isoforms is dependent upon the recruitment of co-receptors (TGF-? beta RIII and endoglin) and the subsequent initiation of Smad--dependent or -independent signaling pathways.

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