Recombinant Human TGF beta 3 protein(His Tag)

Catalog Number: PKSH034198

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

Description

Species	Human
Source	E.coli-derived Human TGF beta 3 protein Ala 301-Ser 412, with an C-terminal His
Calculated MW	13.7 kDa
Observed MW	13 kDa
Accession	P10600
Bio-activity	Measure by its ability to inhibit IL-4-induce proliferation in HT-2 cells. The ED_{50} for this effect is <50 pg/mL. The specific activity of recombinant human TGF beta 3 is > 2 x 10^7 IU/mg.

Properties

Purity	> 98 % as determined by reducing SDS-PAGE.
Endotoxin	< 0.1 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 ℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 20 mM sodium citrate, 0.2 M NaCl, pH 3.5. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 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. Rat TGF-beta 3 cDNA encodes a 412 amino acid (aa) precursor that contains a 23 aa signal peptide and a 389 aa proprotein. 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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