Recombinant Human TGF beta 2 protein(His Tag)

Catalog Number: PKSH034148

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

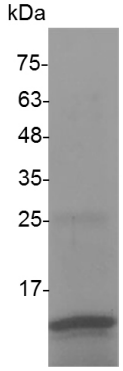
Description

Species	Human
Source	E.coli-derived Human TGF beta 2 protein Ala 303-Ser 414, with an C-terminal His
Calculated MW	13.7 kDa
Observed MW	15 kDa
Accession	P61812
Bio-activity	Measure by its ability to inhibit IL-4-induce proliferation in HT-2 cells. The ED_{50} for this effect is <0.2 ng/mL.The specific activity of recombinant human TGF beta 2 is > 5 x 10^6 IU/mg.

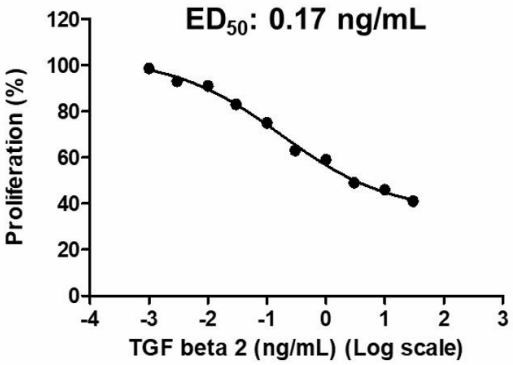
Properties

Purity	> 98 % as determined by reducing SDS-PAGE.
Endotoxin	< 0.01 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.

Data



> 98 % as determined by reducing SDS-PAGE.



Measure by its ability to inhibit IL-4-induce proliferation in HT-2 cells. The ED_{50} for this effect is <0.2 ng/mL.The specific activity of recombinant human TGF beta 2 is > 5 x 10^6 IU/mg.

Background

TGF-beta 2 (transforming growth factor beta 2) is one of three closely related mammalian members of the large TGF-beta superfamily that share a characteristic cysteine knot structure. TGF-beta 1, -2 and -3 are highly pleiotropic cytokines proposed to act as cellular switches that regulate processes such as immune function, proliferation and epithelial-mesenchymal transition. Each TGF-beta isoform has some non-redundant functions; for TGF-beta 2, mice with targeted deletion show defects in development of cardiac, lung, craniofacial, limb, eye, ear and urogenital systems. Covalent linkage of LAP to one of three latent TGF-beta binding proteins (LTBPs) creates a large latent complex that may interact with the extracellular matrix. TGF-beta is activated from latency by pathways that include actions of the protease plasmin, matrix metalloproteases, thrombospondin 1 and a subset of integrins. TGF-beta 2 signaling begins with binding to a complex of the accessory receptor betaglycan (also known as TGF-beta RIII) and a type II ser/thr kinase receptor termed TGF-beta RII. This receptor then phosphorylates and activates another ser/thr kinase receptor, TGF-beta RI (also called activin receptor-like kinase (ALK) -5), or alternatively, ALK-1. The whole complex phosphorylates and activates Smad proteins that regulate transcription. Use of other signaling pathways that are Smad-independent allows for disparate actions observed in response to TGF-beta in different contexts.