Animal-Free TGF beta 1/TGFB1 Protein, Mouse (His)

Cat. No.:	HY-P700227AF
Synonyms:	rMuTGF-beta 1/TGFB1; Transforming growth factor beta-1; TGF-β1; LAP
Species:	Mouse
Source:	E. coli
Accession:	P04202 (A279-S390)
Gene ID:	21803
Molecular Weight:	Approximately 13.8 kDa

PROPERTIES

AA Sequence	M A L D T N Y C F S S T E K N C C V R Q L Y I D F R K D L G W K W I H E P K G Y H A N F C L G P C P Y I W S L D T Q Y S K V L A L Y N Q H N P G A S A S P C C V P Q A L E P L P I V Y Y V G R K P K V E Q L S N M I V R S C K C S
Biological Activity	Measure by its ability to inhibit the IL-4 dependent proliferation in HT-2 cells.The ED_{50} for this effect is<0.1 ng/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 20 mM sodium citrate, 0.2M NaCl, pH 3.5.
Endotoxin Level	<0.1 EU per 1 μg of the protein by the LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The TGF beta-1 (TGFB1) protein, in its proprotein form, serves as a precursor for both the Latency-associated peptide (LAP) and the active Transforming growth factor beta-1 (TGF-beta-1) chains. This proprotein is crucial for maintaining the TGF-beta-1 chain in a latent state during storage within the extracellular matrix. The interaction with various 'milieu molecules,' including LTBP1, LRRC32/GARP, and LRRC33/NRROS, plays a pivotal role in regulating the activation of TGF-beta-1. Specifically, LRRC33/NRROS is involved in the activation of TGF-beta-1 in macrophages and microglia, while LRRC32/GARP controls its activation on the surface of activated regulatory T-cells (Tregs). Additionally, the proprotein interacts with integrins (ITGAV:ITGB6 or ITGAV:ITGB8), leading to the distortion of the Latency-associated peptide chain and subsequent release of active TGF-beta-1.

Caution: Product has not been fully validated for medical applications. For research use only.

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