

Recombinant Rat TGFB3 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52454

Size: 10ug, 100ug

Protein Name: Transforming growth factor beta-3 proprotein [Cleaved into: Latency-associated peptide (LAP); Transforming growth factor beta-3 (TGF-beta-3)]

Synonym: Tgfb3, Tgf-b3

UniProt ID: Q07258

UniProt Link: www.uniprot.org/uniprotkb/Q07258/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 412 AA

Molecular Weight: 47 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MKMHLQRALVVLALLNLATVSLSLSTCTTLDLFGHIKKRVEAIRGQILSKLRLTSPPEPSVMTHVPYQV
LALYNSTRELLEEMHGEREEGCTQETSESEYYAKEIHKFDMIQGLAEHNELAVCPKGITSKVFRFNVS
SVEKNGTNLFRAEFRVLVLPNPSSKRTEQRIELFQILRPDEHIAKQRYIGGKNLPTRGTAEWLSFDVT
DTVREWLLRRESNLGLEISIHCPCHTFQPNGDILENVHEVMEIKFKGVDNEDDHGRGDLGRLKKQKD
HHNPHLILMMIPPHRLDSPGQGGQRKKRALDTNYCFRNLEENCCVRPLYIDFRQDLGWKWWHEPK
GYANFCSGPCPYLRSSDTTHSTVLGLYNTLNPEASASPCCVPQDLEPLTILYYVGRTPKVEQLSNM
VVKSCCKCS

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Transforming growth factor beta-3 proprotein [Cleaved into: Latency-associated peptide (LAP); Transforming growth factor beta-3 (TGF-beta-3)] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Transforming growth factor beta-3 proprotein: Precursor of the Latency-associated peptide (LAP) and Transforming growth factor beta-3 (TGF-beta-3) chains, which constitute the regulatory and active subunit of TGF-beta-3, respectively.; [Latency-associated peptide]: Required to maintain the Transforming growth factor beta-3 (TGF-beta-3) chain in a latent state during storage in extracellular matrix (By similarity). Associates non-covalently with TGF-beta-3 and regulates its activation via interaction with 'milieu molecules', such as LTBP1 and LRRC32/GARP, that control activation of TGF-beta-3 (By similarity). Interaction with integrins results in distortion of the Latency-associated peptide chain and subsequent release of the active TGF-beta-3 (By similarity).; Transforming growth factor beta-3: Multifunctional protein that regulates embryogenesis and cell differentiation and is required in various processes such as secondary palate development (By similarity). Activation into mature form follows different steps: following cleavage of the proprotein in the Golgi apparatus, Latency-associated peptide (LAP) and Transforming growth factor beta-3 (TGF-beta-3) chains remain non-covalently linked rendering TGF-beta-3 inactive during storage in extracellular matrix (By similarity). At the same time, LAP chain interacts with 'milieu molecules', such as LTBP1 and LRRC32/GARP that control activation of TGF-beta-3 and maintain it in a latent state during storage in extracellular milieu (By similarity). TGF-beta-3 is released from LAP by integrins: integrin-binding results in distortion of the LAP chain and subsequent release of the active TGF-beta-3 (By similarity). Once activated following release of LAP, TGF-beta-3 acts by binding to TGF-beta receptors (TGFB1 and TGFB2), which transduce signal (By similarity).

Subcellular Localization: [Latency-associated peptide]: Secreted, extracellular space, extracellular matrix .; [Transforming growth factor beta-3]: Secreted .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.