Active Transforming Growth Factor Beta 3 (TGFb3)

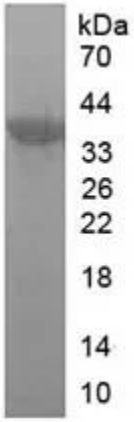
Catalog#:PEH12776

概述（Summary）

别称（Alternative Names）	TGF-B3; LAP; Latency-associated peptide
纯度（Purity）	Greater than 95% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Leu24-Arg300】
Accession #	P10600
表达宿主（Host）	E.coli
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	35.8 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	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.; Required to maintain the Transforming growth factor beta-3 (TGF-beta-3) chain in a latent state during storage in extracellular matrix. 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. Interaction with integrins results in distortion of the Latency-associated peptide chain and subsequent release of the active TGF-beta-3.;

Transforming growth factor beta-3: Multifunctional protein that regulates embryogenesis and cell differentiation and is required in various processes such as secondary palate development. 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. 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 milieus. 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. Once activated following release of LAP, TGF-beta-3 acts by binding to TGF-beta receptors (TGFBR1 and TGFBR2), which transduce signal.

电泳图（SDS-PAGE image）



Greater than 95% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

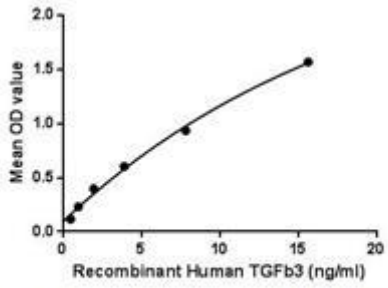


Figure 1. The binding activity of TGFb3 with TGFbR2.

Transforming growth factor beta-3 (TGFb3) is a type of protein, known as a cytokine, which is involved in cell differentiation, embryogenesis and development. It belongs to a large family of cytokines called the Transforming growth factor beta superfamily. TGFb3 is believed to regulate molecules involved in cellular adhesion and extracellular matrix (ECM) formation during the process of palate development. It also plays an essential role in controlling the development of lungs in mammals, by also regulating cell adhesion and ECM formation in this tissue, and controls wound healing by regulating the movements of epidermal and dermal cells in injured skin. Besides, Transforming Growth Factor Beta Receptor II (TGFbR2) has been identified as an interactor of TGFb3, thus a binding ELISA assay was conducted to detect the interaction of recombinant human TGFb3 and recombinant human TGFbR2. Briefly, TGFb3 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to TGFbR2-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-TGFb3 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of TGFb3 and TGFbR2 was shown in Figure 1, and this effect was in a dose dependent manner.

注意事项（Note）

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