

PRODUCT INFORMATION



TGFBI (human, recombinant)

Item No. 44190

Overview and Properties

Synonyms: Beta ig-h3, BGH3, BIGH3, β IG-H3, Kerato-epithelin, RGD-CAP, RGD-containing Collagen-associated Protein, Transforming Growth Factor-beta-induced Protein ig-h3 Precursor

Source: Recombinant human C-terminal His-tagged TGFBI expressed in HEK293 cells

Amino Acids: 24-683

Uniprot No.: Q15582

Molecular Weight: 74 kDa

Storage: -80°C (as supplied)

Stability: ≥ 1 year

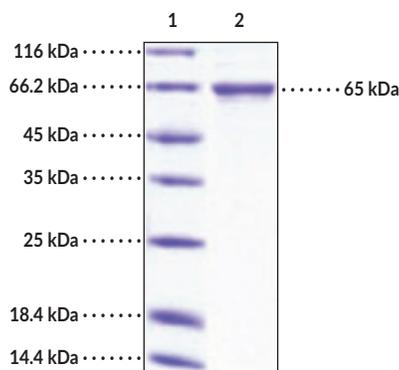
Purity: $\geq 75\%$ estimated by SDS-PAGE

Supplied in: Lyophilized from a sodium citrate buffer system at pH 6.0.

Endotoxin Testing: < 1.0 EU/ μ g, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: TGFBI

SDS-PAGE Analysis of TGFBI. This protein has a calculated molecular weight of 74 kDa. It has an apparent molecular weight of approximately 65 kDa by SDS-PAGE under reducing conditions due to glycosylation. Proteins with compact beta-sheet domains, such as TGFBI, bind less SDS or retain partial tertiary structure even under reducing conditions.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

TGF- β -induced ig-h3 precursor (TGFB1) is a TGF- β -responsive extracellular protein.¹ It is composed of an N-terminal signal peptide and cysteine-rich domain, four fasciclin 1 (FAS) repeats, and a C-terminal arginine-glycine-aspartate (RGD) motif.¹ TGFB1 is expressed in the mesenchyme during development and in the extracellular matrix in many tissues, including the cornea, bone, and kidney, in the adult.² Its production is induced by TGF- β , and it inhibits cell adhesion by interacting with collagens, fibronectin, laminin, and vitronectin.^{2,3} In animal models, TGFB1 acts as a tumor suppressor during cancer initiation and promotes progression during later stages, but both effects are dependent on cancer type.³ Mutations in *TGFB1* are associated with corneal dystrophies and lead to protein aggregation in the cornea and severe visual impairment or blindness.^{2,3} Cayman's TGFB1 (human, recombinant) protein consists of 671 amino acids, has a calculated molecular weight of 74 kDa, and a predicted N-terminus of Gly24 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 65 kDa due to glycosylation. Glycosylated proteins or proteins with compact beta-sheet domains, such as TGFB1, bind less SDS or retain partial tertiary structure even under reducing conditions.

References

1. Runager, K., Enghild, J.J., and Klintworth, G.K. Focus on molecules: Transforming growth factor beta induced protein (TGFB1p). *Exp. Eye Res.* **87(4)**, 298-299 (2008).
2. Andersen, R.B., Karring, H., Møller-Pedersen, T., *et al.* Purification and structural characterization of transforming growth factor beta induced protein (TGFB1p) from porcine and human corneas. *Biochemistry* **43(51)**, 16374-16384 (2004).
3. Corona, A. and Blobe, G.C. The role of the extracellular matrix protein TGFB1 in cancer. *Cell. Signal.* **84**, 110028 (2021).

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