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Recombinant human TGF-β1 PLUS™ protein (Qk010)



Type: Stem cells

Available for purchase: unit size (µg): 25, 50, 100, 500, 1000

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Product Information

Transforming growth factor-beta 1 (TGF-β1) is a pleiotropic cytokine that regulates various cellular processes, including cell proliferation, growth, differentiation, motility, and apoptosis. It is an essential growth factor in many embryonic and induced pluripotent stem cell maintenance media, including the commonly used E8, StemPro, and mTeSR media. TGF-β1 also promotes the differentiation of various cell types such as fibroblasts, epithelial cells, and immune cells.

Qkine recombinant TGF-β1 PLUS™ protein is the first entirely animal origin-free recombinant human TGF-β1 protein for highly reproducible results and compatible with chemically-defined stem cell media.

TGF-β1 PLUS™ is a high purity 24 kDa dimer comprising optimized mature domain of TGF-β1 protein. Our TGF-β1 PLUS™ protein has been extensively tested for maintenance of iPSC pluripotency by the specialist stem cell biotechnology company, Stemnovate, Cambridge, UK.

Qkine TGF-β1 PLUS™ is also available as cell therapy grade with extended quality testing and documentation - Qk010-CTG

Alternative protein names

Transforming growth factor-beta 1, TGF-beta 1, TGFβ1, TGFB1, TGF B1, tgf-b1, Qk10

Molecular weight

24 kDa (dimer)

Protein Uniprot number

High purity optimised TGF-β1 protein (Uniprot: P01137)

Species reactivity

- human
- species similarity:
- mouse - 99%
- rat - 99%
- bovine - 100%
- porcine - 100%

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from acetonitrile, TFA

Reconstitution instructions

- Resuspend in 10 mM HCl (Reconstitution solution A) at >50 µg/ml

Featured applications

- Induced pluripotent and embryonic stem cell differentiation and maintenance
- Chemically defined media optimization

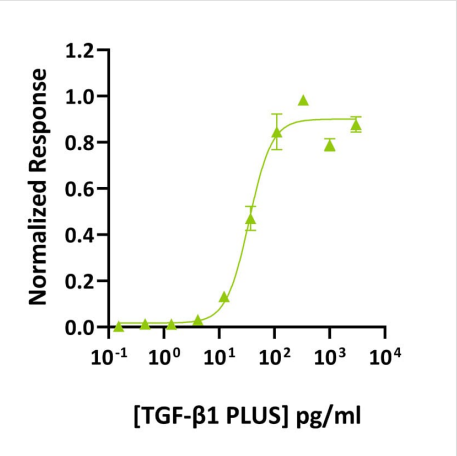
Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

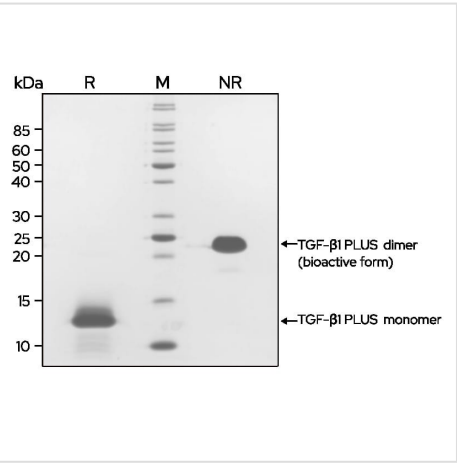
Bioactivity

TGF-β1 PLUS™ activity was determined using the firefly luciferase reporter assay in transiently transfected HEK293T cells. Cells were treated in triplicate with a serial dilution of TGF-β1 PLUS™. Firefly luciferase activity was measured and normalized. EC50 = 34.8 pg/ml. Data from Qk010 lot #011.



Purity

TGF-β1 PLUS™ (Qk010) dimer migrates as a single band at 24 kDa in non-reducing (NR) and 13 kDa as a single monomeric species upon reduction (R). High purity yield of dimeric protein (bioactive form). Purified recombinant protein (7 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced conditions (NR) and stained with Coomassie Brilliant Blue R250. Data from Qk010 lot #012.



Original product page: https://qkine.com/product/recombinant-human-tgf-%ce%b21-plus-protein-qk010/

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