



## Features

- Designed under ISO 9001:2015 and ISO 13485:2016
- Manufactured and QC tested under a GMP compliance factory
- FDA DMF filed
- Animal-Free materials
- Beta-lactam materials free
- Batch-to-batch consistency
- Stringent quality control tests

## Source

GMP Human TGF-Beta 1 Protein(GMP-TG1H25) is expressed from human 293 cells (HEK293). It contains AA Ala 279 - Ser 390 (Accession # [P01137-1](#)).

Predicted N-terminus: Ala 279

## Molecular Characterization

**TGFB1(Ala 279 - Ser 390)**  
**P01137-1**

This protein carries no "tag".

The protein has a calculated MW of 12.8 kDa. The protein migrates as 13 kDa $\pm$ 3 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).

## Endotoxin

Less than 10 EU/mg by the LAL method / rFC method.

## Host Cell Protein

<0.5 ng/ $\mu$ g of protein tested by ELISA.

## Host Cell DNA

<0.02 ng/ $\mu$ g of protein tested by qPCR.

## Sterility

The sterility testing was performed by membrane filtration method described in USP<71> and Ph. Eur. 2.6.1.

## Mycoplasma

Negative.

## Purity

>95% as determined by SDS-PAGE.

## Formulation

Lyophilized from 0.22  $\mu$ m filtered solution in 100 mM HAC, pH3.0 with protectants.

Contact us for customized product form or formulation.

## Shipping

*This product is supplied and shipped with blue ice, please inquire the shipping cost.*

## Storage

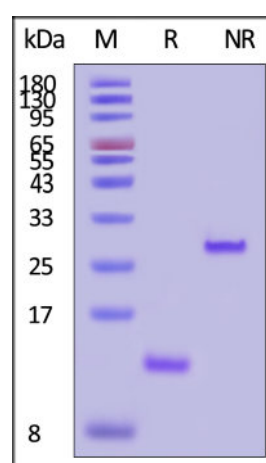
Upon receipt, store it immediately at -20°C or lower for long term storage.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 5 years in lyophilized state;
- -70°C for 12 months under sterile conditions after reconstitution.

## SDS-PAGE



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and more!

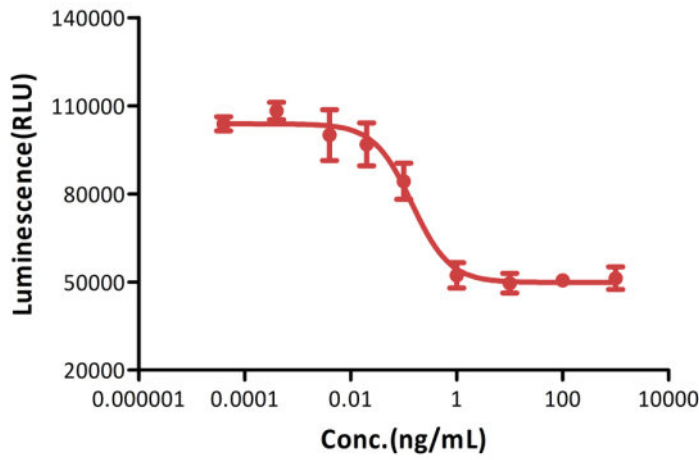




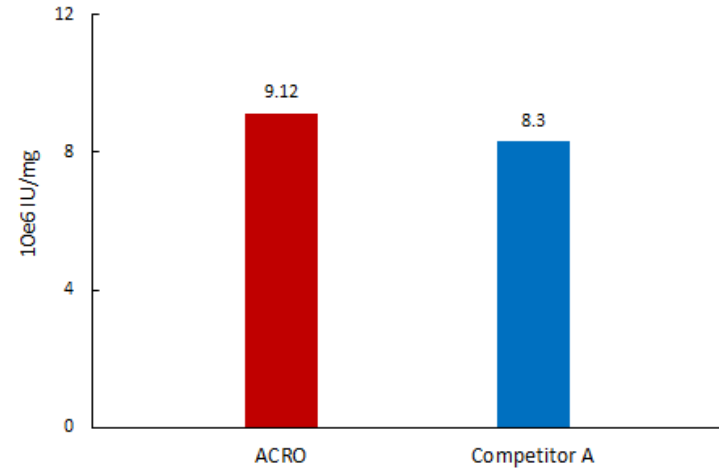
GMP Human TGF-Beta 1 Protein on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

**Bioactivity-CELL BASE**

**GMP Human TGF-Beta 1 Protein inhibits the IL-4 dependent proliferation the TF-1 cells**



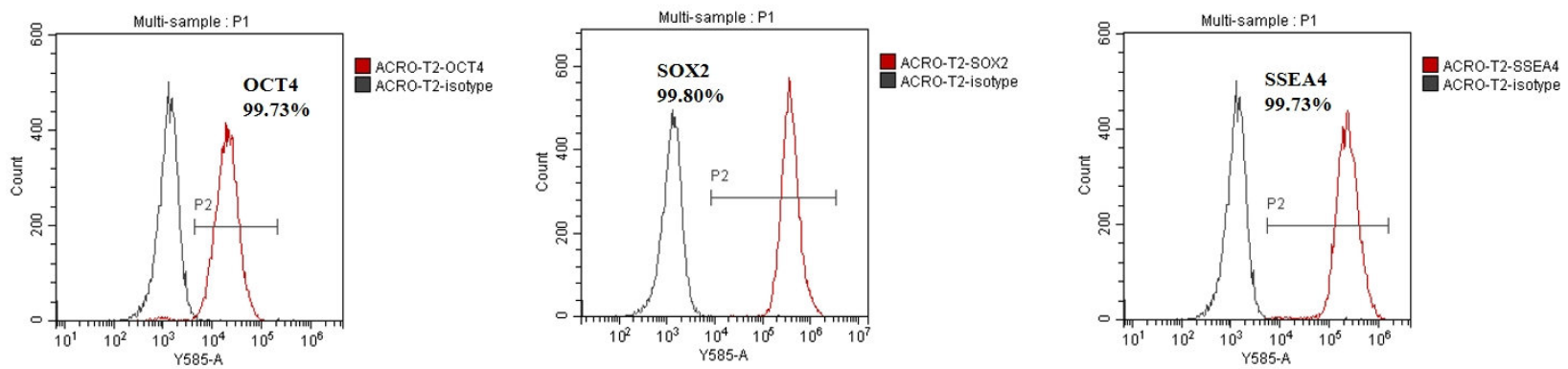
**TGF-Beta 1 inhibits the IL-4 dependent proliferation the TF-1 cells**



GMP Human TGF-Beta 1 Protein (Cat. No. GMP-TG1H25) inhibits the GMP Human IL-4 Protein (Cat. No. GMP-L04H26) dependent proliferation the TF-1 cells. The specific activity of GMP Human TGF-Beta 1 Protein is  $> 6.00 \times 10^6$  IU/mg, which is calibrated against transforming growth factor  $\beta 1$  (NIBSC code:89/514) (QC tested).

The activity of GMP Human TGF-Beta 1 Protein (Cat. No. GMP-TG1H25) was higher than other competing products.

**Application Data**

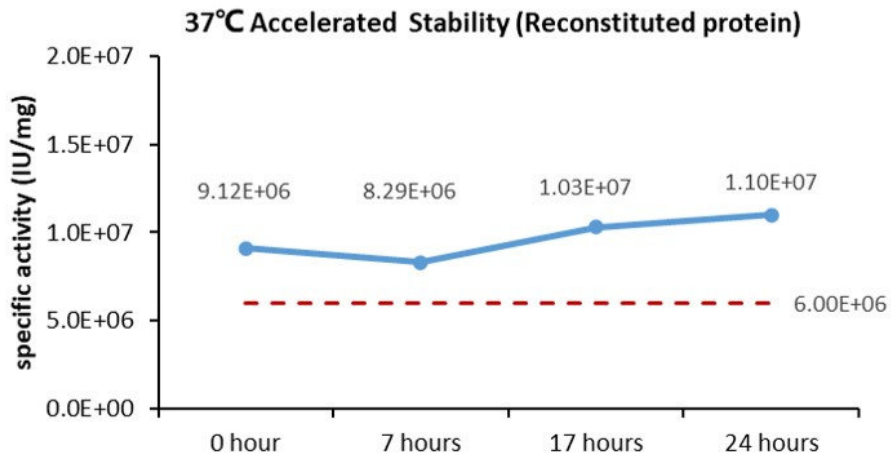


GMP Human FGF basic Protein (Cat. No. GMP-FGCH17) and GMP Human TGF-Beta 1 Protein (Cat. No. GMP-TG1H25) could maintain the stemness of hiPSCs with high expression of stem cell genes OCT4, SOX2, and SSEA4 with GMP Human Laminin 521 Protein (Cat. No. GMP-LA5H24).

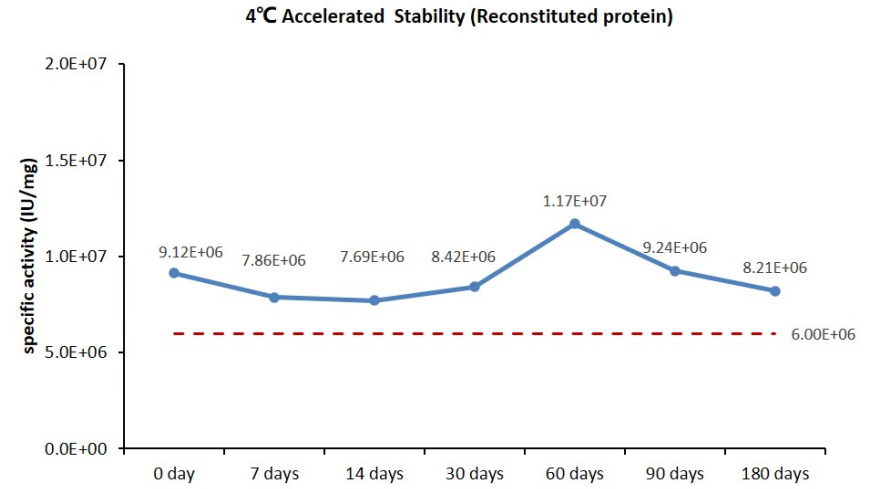
**Bioactivity-Stability**

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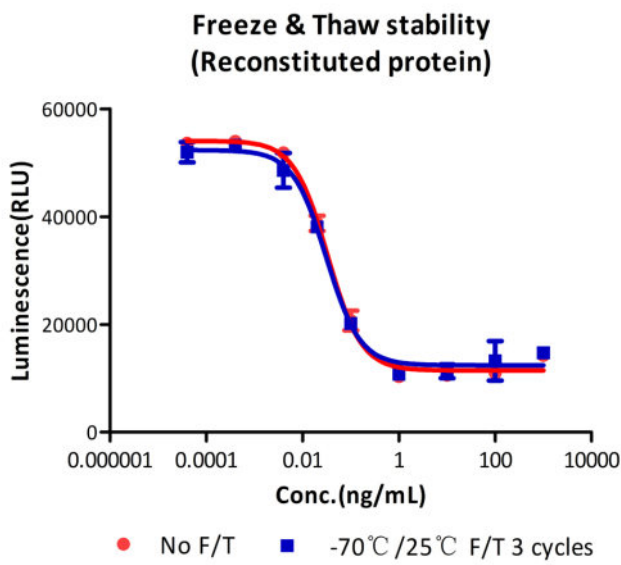




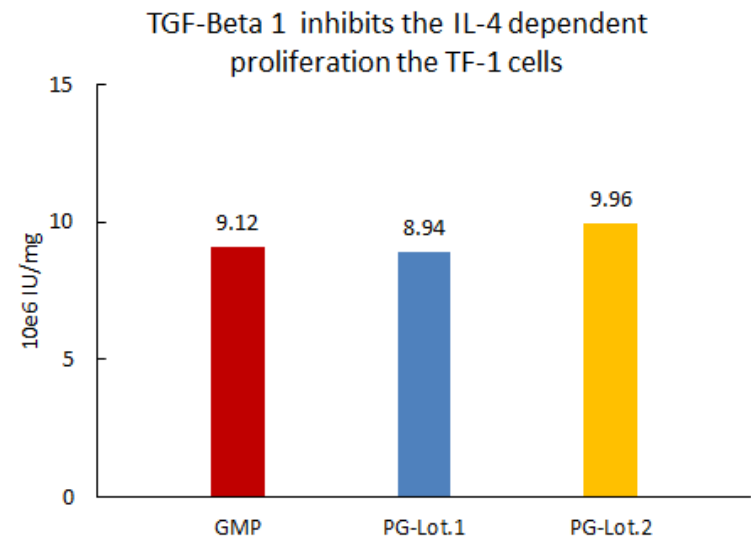
The Cell based assay shows that GMP Human TGF-Beta 1 Protein (Cat. No. GMP-TG1H25) is stable at 37°C for 24 hours.



The Cell based assay shows that GMP Human TGF-Beta 1 Protein (Cat. No. GMP-TG1H25) is stable at 4°C for 180 days.



The Cell based assay shows that GMP Human TGF-Beta 1 Protein (Cat. No. GMP-TG1H25) is stable after freezing and thawing 3 times.



The Cell based assay shows batch-to-batch consistency between Acro's GMP and PG TGF-Beta 1.

**MANUFACTURING SPECIFICATIONS**

ACROBiosystems GMP grade products are produced under a quality management system and in compliance with relevant guidelines: Ph. Eur General Chapter 5.2.12 Raw materials of biological origin for the production of cell-based and gene therapy medicinal products; USP<92>Growth Factors and Cytokines Used in Cell Therapy Manufacturing; USP<1043>Ancillary Materials for Cell, Gene, and Tissue-Engineered Products; ISO/TS 20399-1:2018, Biotechnology - Ancillary Materials Present During the Production of Cellular Therapeutic Products.

ACROBiosystems Quality Management System Contents:

Designed under ISO 9001:2015 and ISO 13485:2016, Manufactured and QC tested under a GMP compliance factory

Animal-Free materials

Materials purchased from the approved suppliers by QA

ISO 5 clean rooms and automatic filling equipment

Qualified personnel

Quality-related documents review and approve by QA

Fully batch production and control records





Equipment maintenance and calibration

Validation of analytical procedures

Stability studies conducted

Comprehensive regulatory support files

[Request For Regulatory Support Files \(RSF\)](#)

ACROBiosystems provide rigorous quality control tests (fully validated equipment, processes and test methods) on our GMP grade products to ensure that they meet stringent standards in terms of purity, safety, activity and inter-batch stability, and each bulk QC lot mainly contains the following specific information:

SDS-PAGE

Protein content

Endotoxin level

Residual Host Cell DNA content

Residual Host Cell Protein content

Biological activity analysis

Microbial testing

Mycoplasma testing

In vitro virus assay

Residual moisture

Batch-to-batch consistency

## Background

This gene encodes a secreted ligand of the TGF-beta (transforming growth factor-beta) superfamily of proteins. Ligands of this family bind various TGF-beta receptors leading to recruitment and activation of SMAD family transcription factors that regulate gene expression. The encoded preproprotein is proteolytically processed to generate a latency-associated peptide (LAP) and a mature peptide, and is found in either a latent form composed of a mature peptide homodimer, a LAP homodimer, and a latent TGF-beta binding protein, or in an active form consisting solely of the mature peptide homodimer. The mature peptide may also form heterodimers with other TGFB family members. This encoded protein regulates cell proliferation, differentiation and growth, and can modulate expression and activation of other growth factors including interferon gamma and tumor necrosis factor alpha. This gene is frequently upregulated in tumor cells, and mutations in this gene result in Camurati-Engelmann disease. [provided by RefSeq, Aug 2016]

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