

Technical Data Sheet

Recombinant human TGF- β 1



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Lot Specific Information

Lot Number: Lot Specific*

Total Protein: Lot Specific*

*This information will be noted on the certificate of analysis that ships with this product.

Shelf Life

This product has a guaranteed shelf-life of one year from the date of customer receipt when stored as recommended.

Product Website Link: <https://bioxcell.com/recombinant-human-tgf-beta-1-rp004>

Product Information

Catalog Number:	RP004
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Recommended Dilution Buffer:	InVivoPure Reconstitution Buffer A
Formulation:	Lyophilized, white powder
Endotoxin:	≤ 0.5 EU/mg, LAL assay
Purity:	$\geq 95\%$; SDS-PAGE
Reconstitution:	Resuspend in 10 mM HCl (Reconstitution solution A) at >50 $\mu\text{g/ml}$. Once reconstituted, store in single-use aliquots to avoid freeze-thaw cycles. Store reconstituted protein at -20 $^{\circ}\text{C}$ to -80 $^{\circ}\text{C}$ for a maximum of 12 months or until the expiry date if sooner.
Sterility:	Sterile
Production:	Microbial. Expressed in E. coli
Molecular Weight:	24 kDa (dimer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human TGF- β 1 PLUS[™] protein (transforming growth factor-beta 1) is a pleiotropic cytokine of the TGF- β superfamily that regulates cell proliferation, growth, differentiation, motility and apoptosis and is central to immune response, tissue repair and epithelial-mesenchymal transition. The mature 390-amino-acid protein is a disulfide-linked homodimer that is activated from a latent complex and signals through TGF- β RII/TGF- β RI and ALK-5/ALK-1 receptor complexes via Smad-dependent and Smad-independent pathways. In cell culture, recombinant TGF- β 1 is an essential component of chemically defined pluripotent stem cell media such as E8, StemPro and mTeSR, supporting the survival and pluripotency of embryonic and induced pluripotent stem cells, and it is combined with factors such as BMP-2, IL-2 and IL-6 to guide differentiation of stromal cells and T reg/Th17 cells. This animal-free, highly bioactive TGF- β 1 offers a truly animal-free alternative for chemically defined stem cell culture, high potency in iPSC culture with strong nanog pluripotency marker expression, high purity, and exceptional lot-to-lot consistency. This protein is optimized for in vivo and functional applications: low-endotoxin, tag-free, and carrier-free, supporting reproducible performance in demanding preclinical and bioactivity studies. Species reactivity: human. Species similarity: mouse - 99%, rat - 99%, bovine - 100%, porcine - 100%.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**

It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at <https://bioxcell.com/faqs>.

Store lyophilized protein between -20 $^{\circ}\text{C}$ and -80 $^{\circ}\text{C}$ until the date of expiry. Avoid freeze-thaw cycles

Bio X Cell, LLC
<https://bioxcell.com>
+1-866-787-3444
customerservice@bioxcell.com

Conditions: For research use only. Not for use in diagnostic or therapeutic procedures.

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