

Recombinant human TGF- β 1

HEK293 cell expressed human transforming growth factor beta 1 with HSA

Cat. code: rcyc-htgfb1; rcyc-htgfb1-5

<https://www.invivogen.com/human-tgfb1>

For research use only

Version 25A24-MM

PRODUCT INFORMATION

Contents

Recombinant human TGF- β 1 is provided as a lyophilized powder and is available in two quantities:

- **rcyc-htgfb1:** 10 μ g
- **rcyc-htgfb1-5:** 50 μ g (5 x 10 μ g)

Note: This product is sterile filtered prior to lyophilization.

- 1.5 ml endotoxin-free water for rcyc-htgfb1 and rcyc-htgfb1-5

Storage and stability

- Recombinant human TGF- β 1 is shipped at room temperature. Upon receipt, it should be immediately stored at -20 °C.
- Upon resuspension, prepare aliquots of recombinant human TGF- β 1 and store at 4 °C for 1 week or at -20 °C to -80 °C for 12 months.

Note: Avoid repeated freeze-thaw cycles.

Quality control

- Purity: \geq 95% (SDS-PAGE)
- Endotoxin level: \leq 0.1 EU/ μ g (LAL assay)
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.
- The biological activity of TGF- β 1 is confirmed using HEK-Blue™ TGF- β cells.

Characteristics

- Alternate name: Transforming growth factor beta-1
- Source: Mammalian; HEK293 cells
- Carrier: HSA (human serum albumin)
- Tag: Tag-free
- Accession number: PO1137
- Molecular mass: ~ 25 kDa (SDS PAGE, non-reducing conditions)
- Formulation: Recombinant human TGF- β 1 was lyophilized from a 0.2 μ m filtered phosphate buffer saline (pH 7.4), 5% saccharose, 2% HSA.
- Solubility: 100 μ g/ml in water

APPLICATIONS

- Cellular assays

PRODUCT DESCRIPTION

Tumor growth factor-beta (TGF- β) belongs to a family of structurally related cytokines that regulate a plethora of cellular functions, such as proliferation, apoptosis, differentiation, and migration^{1, 2}. TGF- β exists in at least three isoforms; TGF- β 1, TGF- β 2, and TGF- β 3. In the immune system, TGF- β 1 is the predominant isoform¹. It is produced by many cell types, including macrophages, in a latent form that is bound to two other polypeptides, latent TGF- β 1 binding protein (LTBP) and latency-associated peptide (LAP). Upon cleavage of these proproteins, the mature TGF- β 1 is released. This mature protein can bind its cell surface receptors and initiate signaling.

Recombinant TGF- β 1 is a high-quality and biologically active cytokine, validated using proprietary TGF- β reporter cells. This TGF- β isoform is produced in HEK293 cells to ensure protein glycosylation and bona fide 3D structure.

Recombinant human TGF- β 1 can be used together with HEK-Blue™ TGF- β cells for the screening of inhibitory molecules, such as Fresolimumab, a monoclonal antibody targeting all isoforms of TGF- β .

1. Travis MA. & Sheppard D., 2014. TGF- β activation and function in immunity. Annu Rev Immunol. 32:51-82. 2. Taylor AW., 2009. Review of the activation of TGF-beta in immunity. J Leukoc Biol. 85(1):29-33.

METHODS

Preparation of stock solution (100 μ g/ml):

1. Add 100 μ l of endotoxin-free water (provided) to 10 μ g of recombinant human TGF- β 1.
2. Mix gently by pipetting until completely resuspended.
3. Use immediately or prepare aliquots and store at -20 °C or -80 °C. Avoid freeze-thaw cycles.
4. Further dilutions can be prepared in the appropriate aqueous buffer, such as cell culture medium containing serum.

RELATED PRODUCTS

Product	Cat. Code
HEK-Blue™ TGF- β Cells	hkb-tgfbv2

TECHNICAL SUPPORT

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