

## Recombinant Human Transforming Growth Factor-beta 1 (rHu TGF- $\beta$ 1)

Lyophilized (100  $\mu$ g) Cat # AK9884-0100

P 1

### Product Description:

Akron's Recombinant Human Transforming Growth Factor-beta 1 (rHu TGF- $\beta$  1) product is manufactured following all relevant cGMP guidelines for ancillary materials. Akron's rHu TGF- $\beta$ 1 is a single chain, approximately 15 kDa, glycosylated cytokine analog expressed in Chinese Hamster ovary (CHO) cells. The lyophilized product is packaged into vials with endotoxin and sterility testing per USP/EP on the final product. *In vivo*, rHu TGF- $\beta$  1 is produced by many cell types. It helps regulate inflammatory processes and is implicated in autoimmune disease. It also affects stem cell and immune cell differentiation and activation. Akron's cGMP-compliant rHu TGF- $\beta$  1 can be used to promote *ex vivo* responses from B cells, T cells, macrophages, mesenchymal stem cells (MSCs), induced pluripotent stem cells (iPSCs), and neural stem cells (NSCs).

### Product Features:

#### Manufacturing

- Expressed in CHO cells
- Tag-free purification
- Negligible BSE/TSE risk from all components
- All raw materials are compliant, controlled, and traceable under Akron's Quality Management System (QMS)

#### Quality

- Relevant cGMP guidelines used in manufacture, testing, and release
- USP <1043>, Ancillary Materials for Cell, Gene, and Tissue-Engineered Products
- ISO 13485:2016, Medical Devices - Quality Management Systems - Requirements for Regulatory Purposes
- ISO/TS 20399-1-3:2018, Biotechnology - Ancillary Materials Present During the Production of Cellular Therapeutic Products

### Release Testing:

- Appearance
- pH
- Residual Moisture
- Protein Content
- Molecular Weight
- Purity
- Specific Activity
- Biological Activity
- Bacterial Endotoxins
- Sterility

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### Stability:

- Currently on a long-term stability program
- Store at 2-8 °C
- Transport on cold packs

### Reconstitution:

Reconstitute the lyophilized product with 1 mL of sterile water for injection (WFI). Avoid freeze thaw cycles.

### For Use Statement:

For research use or further manufacturing use in *ex vivo* cell therapy applications. This product is not intended for direct *in vivo* use or for direct clinical use as a drug, therapeutic, biologic, or medical device.

### Related Products:

Catalog Number	Product Name	Size
AK8248-0300	Recombinant Human Granulocyte-Colony Stimulating Factor (rHu G-CSF) Solution	300 $\mu$ g
AK8274-0100	Recombinant Human Platelet Derived Growth Factor-BB (rHu PDGF-BB)	100 $\mu$ g
AK9711-1000	Recombinant Human Platelet Derived Growth Factor-AA (rHu PDGF-AA)	1 mg
AK9784-0100	Recombinant Human Basic Fibroblast Growth Factor-155 (rHu bFGF-155)	100 $\mu$ g
AK9797-0100	Recombinant Human Epidermal Growth Factor (rHu EGF)	100 $\mu$ g

For more information on our available products or for technical assistance, see contact info below.  
For contract orders under master supply agreement, please inquire.