Recombinant Human Transforming Growth Factor - beta 1 (rHuTGF-β1)

ChemWhat Technical Data Sheet (TDS)

Catalog Number:	105-49
Source:	*Chinese Hamster Ovary cell line, CHO*
Molecular Weight:	Apparent molecular mass of 24 kDa in SDS-PAGE under non-reducing conditions, 12 kDa under reducing conditions, a disulfide-linked homodimer of two 112 amino acid glycosylated polypeptide chains.
Quantity:	5μg/100μg
AA Sequence:	Ala279-Ser390; Accession # P01137
Purity:	> 97 % by SDS-PAGE analyses.
Biological Activity:	Measured by its ability to inhibit the IL-4-dependent proliferation of HT-2 mouse T cells. The ED_{50} for this effect is 0.04-0.2 ng/mL. The specific activity of rHuTGF-β1 is approximately 2.5×10^4 U/μg, which is calibrated against human TGF-β1 Standard.
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation:	Lyophilized from 0.2 μm filtered concentrated solution in 35 % Acetonitrile and 0.1 % TFA.
Endotoxin:	Less than 0.1 EU/μg of rHuTGF-β1 as determined by LAL method.
Reconstitution:	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile 4 mM HCl to a concentration of 0.1 mg/ml. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriately buffered solutions.
Shipping:	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage:	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.
Usage:	**ChemWhat Limited in UK offers this branded product for research, development or further** evaluation purposes. **NOT FOR HUMAN USE.**

Human Transforming Growth Factor - beta 1

TGF-beta 1 (transforming growth factor beta 1) is one of three closely related mammalian members of the large TGF-beta superfamily that share a characteristic cystine knot structure. TGF-beta 1, -2 and -3 are highly pleiotropic cytokines that are proposed to act as cellular switches that regulate processes such as immune function, proliferation and epithelial-mesenchymal transition. Each TGF-beta isoform has some non-redundant functions; for TGF-beta 1, mice with targeted deletion show defects in hematopoiesis and endothelial differentiation, and die of overwhelming inflammation. TGF- beta is activated from latency by pathways that include actions of the protease plasmin, matrix metalloproteases, thrombospondin 1 and a subset of integrins. Mature human TGF- beta 1 shares 100% aa identity with pig, dog and cow TGF- beta 1, and 99 % aa identity with mouse, rat and horse TGF-beta 1.