

Cytokines

Human Recombinant TGF-beta 3, ACF

Transforming growth factor beta 3, animal component-free



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Catalog #	78156	10 µg	0.25 mg/mL
	78156.1	100 µg	0.25 mg/mL
	78156.2	1000 µg	0.25 mg/mL

Product Description

Transforming growth factor (TGF) beta 3 is a member of the TGF- β superfamily and regulates diverse cellular phenotypes. TGF-beta 3 binds to serine-threonine kinase type I and II receptors and activates signal transduction through SMAD2/3 proteins, thus regulating a variety of functions, including cell proliferation, differentiation, wound healing, apoptosis, and metabolism (Massagué; McDowell et al.). TGF-beta 3 enhances glycosaminoglycan production by mesenchymal stromal cells, stimulates scar-free healing, and improves glucose tolerance and phenotypic changes in adipocyte morphology (Hall et al.; Holton et al.). TGF-beta 3 induces proliferation of posterofrontal suture-derived mesenchymal stromal cells, and stimulates expression of fibroblast growth factors 2 and 18 (James et al.). This product is animal component-free.

Product Information

Alternative Names:	ARVD, FLJ16571, TGFB3, TGF-b3, Transforming growth factor beta-3
Accession Number:	P10600
Amino Acid Sequence:	MALDTNYCFR NLEENCCVRP LYIDFRQDLG WKWVHEPKGY YANFCSGPCP YLRSADTTHS TVLGLYNTLN PEASASPCCV PQDLEPLTIL YVVGRTPKVE QLSNMVVKSC KCS
Predicted Molecular Mass:	12.9 kDa monomer; 25.7 kDa dimer
Species:	Human
Cross Reactivity:	Mouse, Rat, Pig, Cow, Dog
Formulation:	Sterile-filtered liquid containing 10 mM acetic acid and 20% ethanol
Source:	E. coli

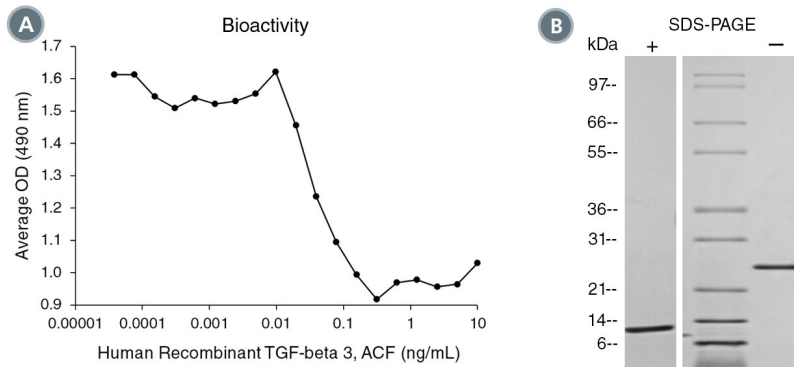
Specifications

Activity:	The specific activity is $\geq 1.0 \times 10^6$ units/mg ($EC_{50} \leq 1$ ng/mL) as determined by the ability to inhibit IL-4-induced HT-2 cell proliferation.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage:	Store at 2 - 8°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Do not vortex. Store at 2 - 8°C for up to 12 months from date of receipt. Do not freeze.

Data



(A) The biological activity of Human Recombinant TGF-beta 3, ACF was tested by its ability to inhibit proliferation of HT-2 cells in the presence of human IL-4. Inhibition of cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation inhibition is at 50% of maximum. The EC50 in the example above is 0.038 ng/mL.

(B) 1 µg of Human Recombinant TGF-beta 3, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Hall BE et al. (2013) Transforming growth factor- β 3 (TGF- β 3) knock-in ameliorates inflammation due to TGF- β 1 deficiency while promoting glucose tolerance. *J Biol Chem* 288(44): 32074–92.
- Holton J et al. (2016) The basic science of bone marrow aspirate concentrate in chondral injuries. *Orthop Rev (Pavia)* 8(3): 6659.
- James AW et al. (2009) Differential effects of TGF-beta1 and TGF-beta3 on chondrogenesis in posterofrontal cranial suture-derived mesenchymal cells in vitro. *Plast Reconstr Surg* 123(1): 31–43.
- Massagué J. (2000) How cells read TGF-beta signals. *Nat Rev Mol Cell Biol* 1(3): 169–78.
- McDowell N et al. (1997) Activin has direct long-range signalling activity and can form a concentration gradient by diffusion. *Curr Biol* 7(9): 671–81.

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