Cytokines

Human Recombinant Myostatin

Myostatin

Catalog #	78119	10 µg
	78119.1	100 µg

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

Myostatin is a member of transforming growth factor beta (TGF-β) superfamily that signals by binding to an activin type II receptor, resulting in the recruitment of either ALK3 or ALK4 coreceptor, and activation of SMAD2/3 (Kondás et al.). It is released by myocytes and inhibits muscle growth and ability to regenerate (Lee & Lee). Myostatin appears to affect the lipid catabolic metabolism of adipocytes and inhibits preadipocyte differentiation, as demonstrated in the 3T3-L1 cell line (Li et al.).

Product Information

Alternative Names:	GDF-8, Growth differentiation factor 8, MSTN78
Accession Number:	O14793
Amino Acid Sequence:	DFGLDCDEHS TESRCCRYPL TVDFEAFGWD WIIAPKRYKA NYCSGECEFV FLQKYPHTHL VHQANPRGSA GPCCTPTKMS PINMLYFNGK EQIIYGKIPA MVVDRCGCS
Predicted Molecular Mass:	12.4 kDa monomer; 24.8 kDa dimer
Species:	Human
Cross Reactivity:	Mouse, Rat
Formulation:	Lyophilized from a sterile-filtered aqueous solution containing 0.1% trifluoroacetic acid.
Source:	E. coli

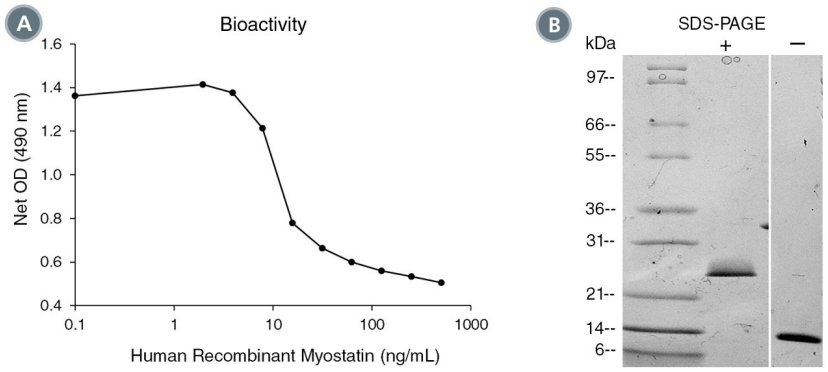
Specifications

Activity:	The specific activity is ≥ 2.0 x 10^4 units/mg (EC50 ≤ 50 ng/mL) as determined by a cytotoxicity assay using MPC-11 cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in 20 mM hydrochloric acid to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant Myostatin was tested by its ability to inhibit proliferation of MPC-11 cells. Inhibition of cell proliferation was measured after 66 hours 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 above example is 12 ng/mL.
(B) 1 µg of Human Recombinant Myostatin was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant Myostatin has a predicted molecular mass of 24.8 kDa (12.4 kDa per monomer).

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

Kondás K et al. (2008) Both WFIKKN1 and WFIKKN2 have high affinity for growth and differentiation factors 8 and 11. J Biol Chem 283(35): 23677–84.
Lee Y-S & Lee S-J. (2013) Regulation of GDF-11 and myostatin activity by GASP-1 and GASP-2. Proc Natl Acad Sci USA 110(39): E3713–22.
Li F et al. (2011) Myostatin regulates preadipocyte differentiation and lipid metabolism of adipocyte via ERK1/2. Cell Biol Int 35(11): 1141–6.