Datasheet

Cat. No. P1233

Recombinant Human DES1-3 IGF-1

Information

Gene ID	3479
Accession #	P05019
Alternate Names	DES1-3 IGF-I, DES(1-3) IGF-I, IGF-I DES(1-3), DES1-3/Insulin-Like Growth factor 1
Source	*Escherichia coli.*
M.Wt	Approximately 7.4 kDa, a single non-glycosylated polypeptide chain containing 67 amino acids.
AA Sequence	TLCGAELVDA LQFVCGDRGF YFNKPTGYGS SSRRAPQTGI VDECCFRSCD LRRLEMYCAP LKPAKSA
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
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.
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The ED_{50} as determined by a cell proliferation assay using serum free human MCF-7 cells is less than 2 ng/ml, corresponding to a specific activity of > 5.0×10^5 IU/mg.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	100 μg
Recombinant Human DES1-3 IGF-1	100 μg

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- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

Quality Control

Purity	> 97 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 50 EU/mg of rHuDES1-3 IGF-1 as determined by LAL method.

Description

IGF-1 belonged to the insulin gene family, is a mitogenic polypeptide growth factor that stimulates the proliferation and survival of various cell types including muscle, bone, and cartilage tissue in vitro. DES(1-3)IGF-1, is a truncated variant of human IGF-1 with the tripeptide Gly-Pro-Glu absent from the N-terminus. It has been isolated from bovine colostrum, human brain and porcine uterus. The DES(1-3)IGF-1 probably results from post-translational cleavage of IGF-1. It has about 10-fold more potent than IGF-1 at stimulating hypertrophy and proliferation of cultured cells, a consequence of much reduced binding to IGF-binding proteins, in turn caused by the absence of the glutamate at position 3. Clinical opportunities for DES(1-3)IGF-1 have not yet been evaluated, but could apply in catabolic states as well as for the treatment of inflammatory bowel diseases.

Reference

1. Ross M, Francis GL, Szabo L, et al. 1989. Biochem J, 258: 267-72.

2. Kummer A, Pulford BE, Ishii DN, et al. 2003. Int J Exp Diabesity Res, 4: 45-57.

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