

Insulin Like Growth Factor 1 (IGF1) Active Protein | IGF1 active protein

Active Insulin Like Growth Factor 1 (IGF1)

CATALOG # AAA161670	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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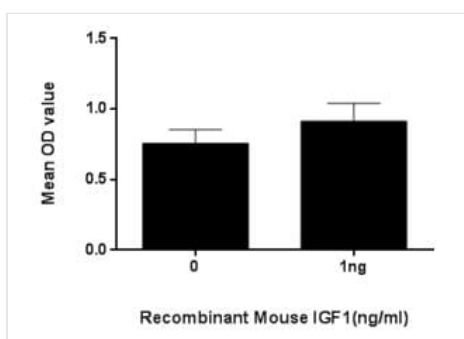
PRODUCT SYNONYMS

Insulin Like Growth Factor 1 (IGF1); Active Insulin Like Growth Factor 1 (IGF1); Insulin Like Growth Factor 1; IGF1; IGF1A; IBP1; MGF; Somatomedin C; Mechano Growth Gactor4; IGF1 active protein

PRODUCT SPECIFICATIONS

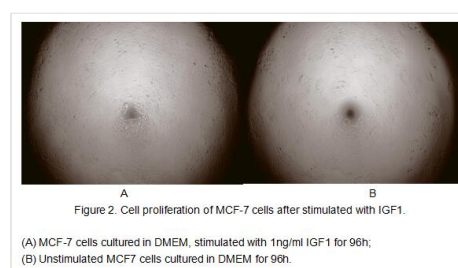
Host	E Coli
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Gly49~Ala1 18
Applicable Applications for IGF1 active protein	Activity Assay, Cell Culture
Species	Mouse
Expression System	Prokaryotic expression
Tag	N-terminal His and GST Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	8.1
Research Area	Tumor immunity, Endocrinology
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

IMAGES



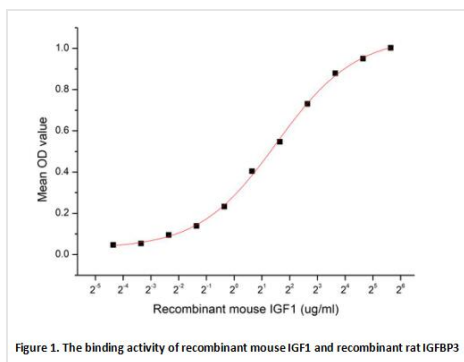
Bioactivity

Figure 3. Cell proliferation of MCF-7 cells after stimulated with IGF1.



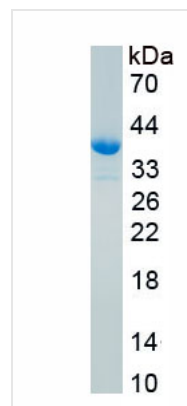
Bioactivity

To measure the effect of IGF1 on cell proliferation, breast cancer MCF-7 cells were seeded into triplicate wells of 96-well plates at a density of 5,000 cells/well and allowed to attach, replaced with serum-free overnight, then the medium was replaced with 1% serum standard DMEM prior to the addition of various concentrations of recombinant mouse IGF1. After incubated for 96h, cells were observed by inverted microscope and cell proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10ul of CCK-8 solution was added to each well of the plate, then the absorbance at 450nm was measured using a microplate reader after incubating the plate for 1-4 hours at 37 degree C. Proliferation of MCF-7 cells after incubation with IGF1 for 96h observed by inverted microscope was shown in Figure1. Cell viability was assessed by CCK-8 assay after incubation with recombinant IGF1 for 96h. The result was shown in Figure2. It was obvious that IGF1 significantly increased cell viability of MCF-7 cells.



Bioactivity

Insulin-like growth factor 1 (IGF1), also called somatomedin C is a hormone similar in molecular structure to insulin. It plays an important role in childhood growth and continues to have anabolic effects in adults. A synthetic analog of IGF1, mecasermin, is used for the treatment of growth failure. Besides, Insulin Like Growth Factor Binding Protein 3 (IGFBP3) has been identified as an interactor of IGF1, thus a binding ELISA assay was conducted to detect the interaction of recombinant mouse IGF1 and recombinant rat IGFBP3. Briefly, IGF1 were diluted serially in PBS, with 0.01% BSA (pH7.4). Duplicate samples of 100 ul were then transferred to IGFBP3-coated microtiter wells and incubated for 1h at 37 degree C. Wells were washed with PBST and incubated for 1h with anti-IGF1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 degree C. Finally, add 50 uL stop solution to the wells and read at 450 nm immediately. The binding activity of IGF1 and IGFBP3 was shown in Figure 1, and this effect was in a dose dependent manner, the EC50 was 1.06 ug/ml.



ADDITIONAL INFORMATION

Product Categories/Family for IGF1 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	163659889
NCBI GeneID	16000
NCBI Accession #	NP_001104744.1
NCBI GenBank Nucleotide #	NP_001104744.1
UniProt Accession #	Q8CAR0; P05017
Molecular Weight	7.7
NCBI Official Full Name	insulin-like growth factor I isoform 3
NCBI Official Synonym Full Names	insulin-like growth factor 1
NCBI Official Symbol	Igf1
NCBI Official Synonym Symbols	Igf-1; Igf-I; C730016P09Rik
NCBI Protein Information	insulin-like growth factor I
UniProt Protein Name	Insulin-like growth factor I
UniProt Gene Name	Igf1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.