

Mouse IGF1 protein, His tag (active)

Cat No. GTX00049-pro

Application Functional Assay

Species Mouse

Package

10 µg

APPLICATION

Application Note

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 mouse IGFBP3. Briefly, IGF1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to IGFBP3-coated microtiter wells and incubated for 2h at 37°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 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 µl stop solution to the wells and read at 450nm immediately. The binding activity of IGF1 and IGFBP3 was in a dose dependent manner.

IGF1 consists of 70 amino acids in a single chain with three intramolecular disulfide bridges. IGF1 has a molecular weight of 7,649 Daltons. To test 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 5000 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, 10 µl 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 °C. Proliferation of MCF-7 cells after incubation with IGF1 for 72h observed by inverted microscope. Cell viability was assessed by CCK-8 assay after incubation with recombinant IGF1 for 72h. And IGF1 significantly increased cell viability of MCF-7 cells.

Observed MW 9 kDa.

PROPERTIES

Form Lyophilized powder

Buffer Lyophilized from 20 mM Tris (pH 8.0) with 150 mM NaCl, 1 mM EDTA, 1 mM DTT, 0.01% SKL, 5% Trehalose, Proclin300. Reconstitute with 20 mM Tris and 150 mM NaCl (pH 8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

Storage For short-term storage (1-2 weeks), store at 4°C. For long-term storage, store at -20°C or below. After reconstitution, keep as concentrated solution. Avoid freeze-thaw cycles.

Region/Sequence N-terminal His-Tag; Gly33~Ala102 (NP_001104744.1)

Expression System E. coli

Purity > 90%

Endotoxin < 1 EU/µg

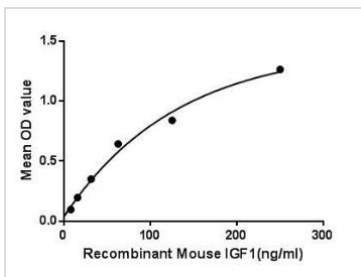
Conjugation Unconjugated

Note For laboratory use only. Not for any clinical, therapeutic, or diagnostic use in humans or animals. Not for animal or human consumption.



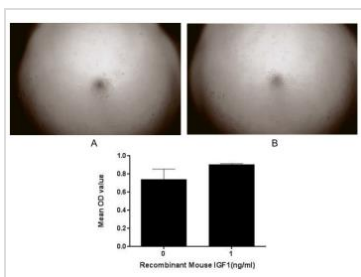
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DATA IMAGES



GTX00049-pro Functional Assay Image

Functional ELISA analysis of GTX00049-pro Mouse IGF1 protein (active) which can bind immobilized IGFBP3 protein.

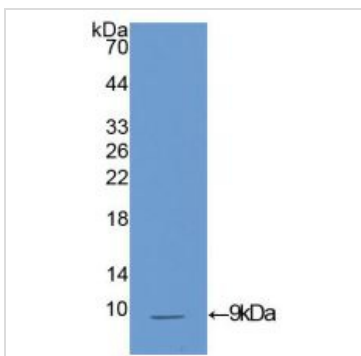


GTX00049-pro Functional Assay Image

Cell proliferation effect of GTX00049-pro Mouse IGF1 protein (active). Cell viability was measured by Cell Counting Kit-8 (CCK-8).

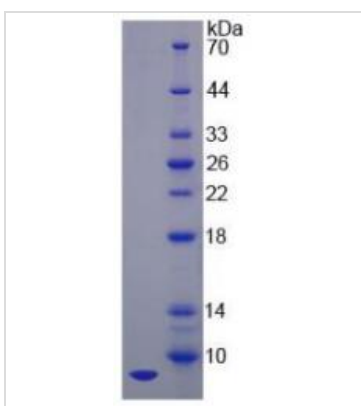
(A) Unstimulated MCF-7 cells cultured in DMEM for 72hrs.

(B) MCF-7 cells cultured in DMEM, stimulated with 1 ng/ml IGF1 for 72hrs.



GTX00049-pro Image

WB analysis of GTX00049-pro Mouse IGF1 protein (active).



GTX00049-pro Image

SDS-PAGE analysis of GTX00049-pro Mouse IGF1 protein (active).



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