Human IGF2 protein, His tag (active)

Cat. No. GTX00213-pro

Applications	Functional Assay
Species	Human

Package
10 µg

Applications

Application Note

insulin-like growth factor 2 (IGF2) is one of three protein hormones that share structural similarity to insulin. It has growth-regulating, insulin-like and mitogenic activities. IGF2 exerts its effects by binding to the IGF-1 receptor and to the short isoform of the insulin receptor. IGF2 may also bind to the IGF2 receptor (also called the cation-independent mannose 6-phosphate receptor), which acts as a signalling antagonist; that is, to prevent IGF2 responses. Besides, Extracellular Matrix Metalloproteinase Inducer (EMMPRIN) has been identified as an interactor of IGF2, thus a binding ELISA assay was conducted to detect the interaction of recombinant human IGF2 and recombinant human EMMPRIN. Briefly, IGF2 were diluted serially in PBS, with 0. 01% BSA (pH 7. 4). Duplicate samples of 100 µl were then transferred to EMMPRIN-coated microtiter wells and incubated for 2h at 37ºC. Wells were washed with PBST and incubated for 1h with anti-IGF2 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 37ºC. Finally, add 50 µl stop solution to the wells and read at 450nm immediately. The binding activity of IGF2 and EMMPRIN was in a dose dependent manner.
To test the effect of IGF2 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 human IGF2. 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 37ºC. Proliferation of MCF-7 cells after incubation with IGF2 for 96h observed by inverted microscope. Cell viability was assessed by CCK-8 (Cell Counting Kit-8) assay after incubation with recombinant IGF2 for 96h. And IGF2 significantly increased cell viability of MCF-7 cells.

Observed MW (kDa)	9 kDa.

Properties

Form	Lyophilized powder
Buffer	Reconstitute with 20mM Tris and 150mM NaCl to 0.1-1.0mg/ml. Do not vortex. Lyophilized from 20mM Tris, 150mM NaCl, 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose.
Preservative	ProClin 300
Storage	For short-term storage (1-2 weeks), store at 4ºC. For long-term storage, store at -20ºC or below. After reconstitution, keep as concentrated solution. Avoid freeze-thaw cycles.
Region/Sequence	N-terminal His-Tag; Ala25~Glu91 (NP_000603.1)
Expression System	E. coli
Purity	> 90%
Endotoxin	< 1 EU/µg
Conjugation	Unconjugated

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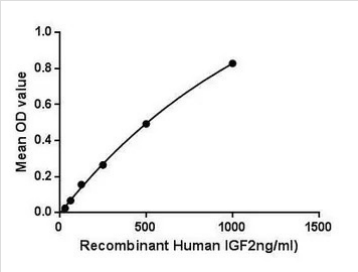
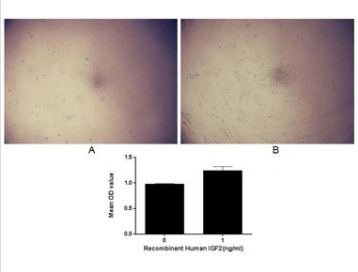
Note	For laboratory use only. Not for any clinical, therapeutic, or diagnostic use in humans or animals. Not for animal or human consumption.

DATA IMAGES



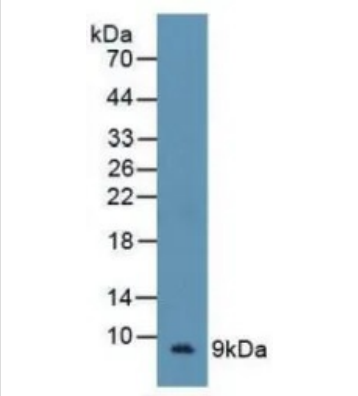
GTX00213-pro Functional Assay Image

Functional ELISA analysis of GTX00213-pro Human IGF2 protein (active) which can bind immobilized EMMPRIN protein.



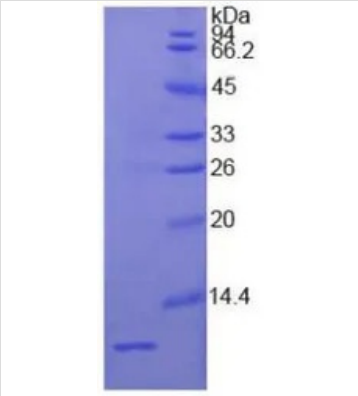
GTX00213-pro Functional Assay Image

Cell proliferation effect of GTX00213-pro Human IGF2 protein (active). Cell viability was measured by Cell Counting Kit-8 (CCK-8).
(A) Unstimulated MCF-7 cells cultured in DMEM for 96hrs.
(B) MCF-7 cells cultured in DMEM, stimulated with 1 ng/ml IGF2 for 96hrs.



GTX00213-pro Image

WB analysis of GTX00213-pro Human IGF2 protein (active).



GTX00213-pro Image

SDS-PAGE analysis of GTX00213-pro Human IGF2 protein (active).

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