APA051Hu01 100μg
Active Insulin Like Growth Factor 2 (IGF2)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Ala25~Glu91
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 6.3
Predicted Molecular Mass: 11.2kDa
Accurate Molecular Mass: 14kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8ºC for one month.
Aliquot and store at -80ºC for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

AYRPSETLCGGELVDTLQFVCGDRGFYFSRPASRVSRRSRGIVEECCFRSCDLALLETYCATPAKSE

[ACTIVITY]

Insulin-like Growth Factor 2 (IGF2) is a mitogenic peptide hormone critical for fetal growth and development, predominantly synthesized by the liver and placenta. It mediates signaling through the IGF1 receptor (IGF1R) and insulin receptor isoform A (IR-A) to govern cell proliferation, differentiation, and metabolic processes. Dysregulated IGF2 expression is associated with oncogenesis and overgrowth disorders such as Beckwith-Wiedemann syndrome. IGF2 exhibits high-affinity binding to Insulin-like Growth Factor Binding Protein 5 (IGFBP5), which dynamically modulates IGF2 bioactivity by either enhancing receptor engagement or restricting ligand-receptor interaction, contingent on the cellular microenvironment.Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human IGF2 and recombinant rat IGFBP5 .Briefly, biotin-linked IGF2 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to IGFBP5-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μl stop solution to the wells and read at 450nm immediately. The binding activity of IGF2 and IGFBP5 was shown in Figure 1, the EC50 for this effect is 0.46ug/mL.

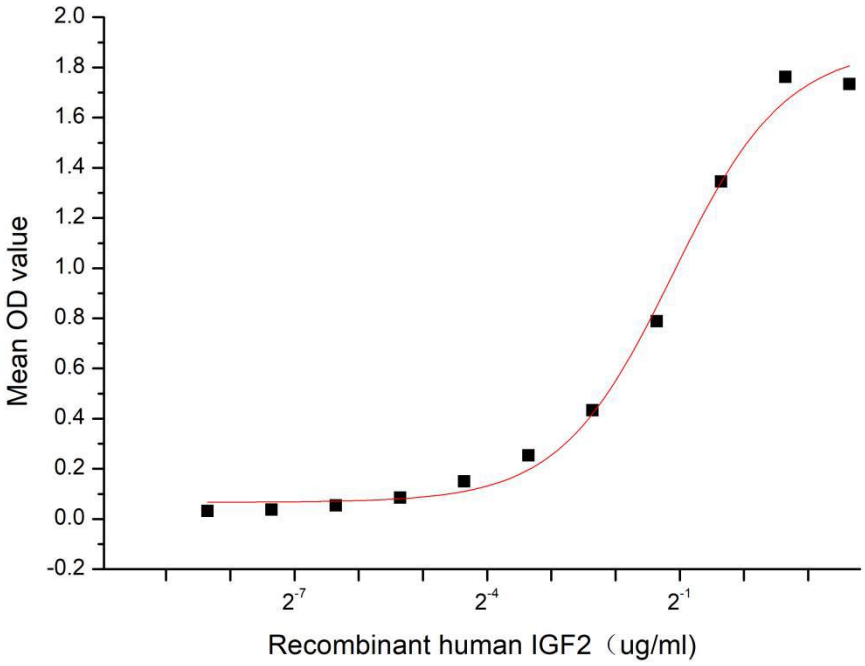

Figure 1. The binding activity of recombinant human IGF2 and recombinant rat IGFBP5

[IDENTIFICATION]

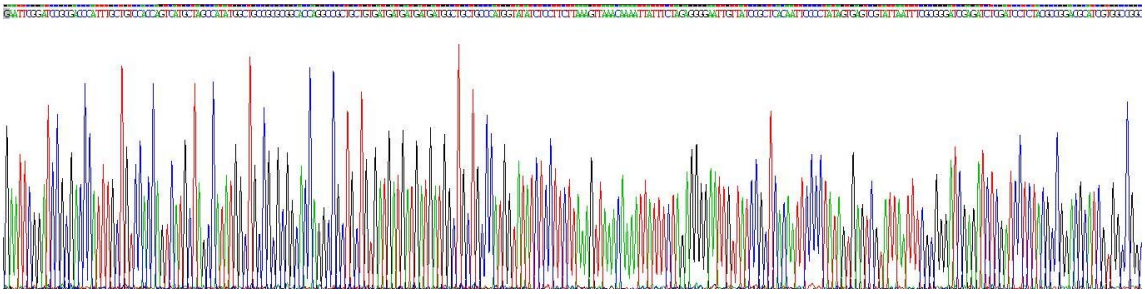

Figure 2. Gene Sequencing (extract)

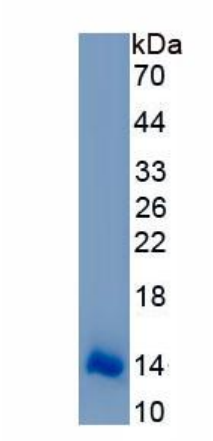

Figure 3. SDS-PAGE

Sample: Active recombinant IGF2, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.