APA050Hu63 10μg
Active Insulin Like Growth Factor 1 (IGF1)
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: Eukaryotic expression.
Host: 293F cell
Residues: Gly49~Ala118
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5% Trehalose.
Original Concentration: 50μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 7.7
Predicted Molecular Mass: 9.3kDa
Accurate Molecular Mass: 12kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in ddH_2O to a concentration $\leqslant$ 0.1mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8°C for one month.
Aliquot and store at -80°C 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 37°C 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]

GP
ETLCGAELVD ALQFVCGDRG FYFNKPTGYG SSSRRAPQTG IVDECCFRSC
DLRRLEMYCA PLKPAKSA

[ACTIVITY]

Insulin-like growth factor I (IGF1) is a key polypeptide hormone closely related to growth hormone, mainly secreted by the liver and various peripheral tissues. It plays pivotal roles in regulating cell proliferation, differentiation, metabolism and somatic growth throughout embryonic development and postnatal growth. IGF1 effectively promotes bone growth, muscle tissue development and organ maturation, and modulates glucose and lipid metabolism to maintain body energy balance. It also participates in tissue repair, anti-aging processes and immune regulation, while its abnormal level is closely linked to dwarfism, metabolic disorders and tumor progression. It further affects cell cycle progression and inhibits excessive cell apoptosis to sustain physiological tissue homeostasis. IGF1 binds specifically to IGFBP3 to regulate its bioavailability and prolong circulating stability in vivo. Briefly, IGFBP3 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to IGF1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-IGFBP3 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. Measured by its binding ability in a functional ELISA. When recombinant human IGF1 is immobilized at 2 μg/mL(100 μLwell), the concentration of IGFBP3 that produces 50% optimal binding-response is found to be approximately 0.050 μg/mL.

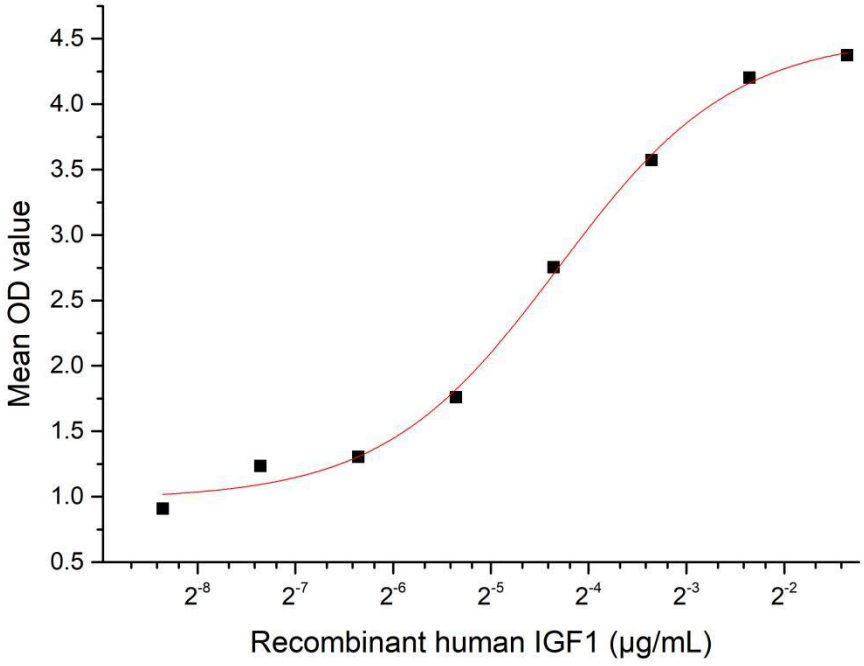

Figure 1. The binding activity of recombinant human IGF1 and mouse IGFBP3

[IDENTIFICATION]

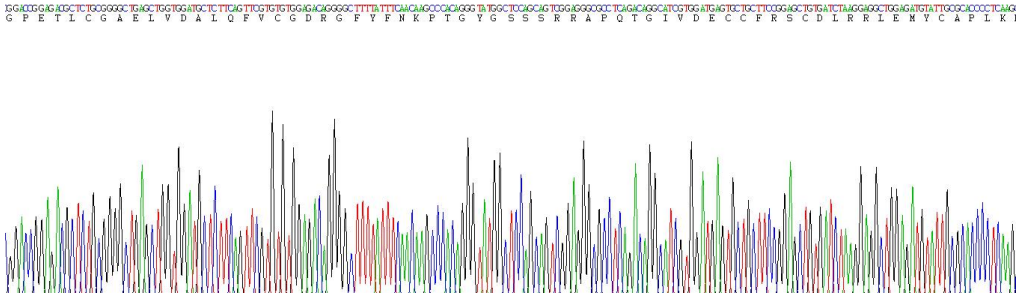

Figure 2. Gene Sequencing (extract)

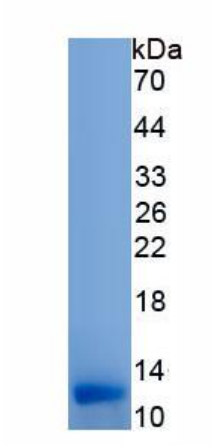

Figure 3. SDS-PAGE

Sample: Active recombinant IGF1, 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.