

APA034Hu01 100µg

Active Fibroblast Growth Factor 4 (FGF4)

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: Ala31~Leu206

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: 8.5

Predicted Molecular Mass: 23.1kDa

Accurate Molecular Mass: 25kDa 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 2-8°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]

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APTAPNGTLE AELERRWESL
VALSLARLPV AAQPKEAAVQ SGAGDYLLGI KRLRRLYCNV GIGFHLQALP
DGRIGGAHAD TRDSLLELSP VERGVVSIFG VASRFFVAMS SKGKLYGSPF
FTDECTFKEI LLPNNYNAYE SYKYPGMFIA LSKNGKTKKG NRVSPMTKVT
HFLPRL
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[ACTIVITY]

Fibroblast Growth Factor 4 (FGF4) is a secreted signaling protein belonging to the fibroblast growth factor family, which plays crucial roles in embryonic development, cell proliferation, differentiation, and migration. It is particularly important during limb formation, mesoderm patterning, and stem cell maintenance. FGF4 exerts its biological functions by binding and activating specific FGF receptors (FGFRs) with high affinity. FGF4 specifically binds to Fibroblast Growth Factor Receptor 2 (FGFR2), particularly the IIIc isoform, triggering receptor dimerization, autophosphorylation, and subsequent activation of downstream signaling pathways including MAPK and PI3K-AKT. To detect the activity of recombinant FGF4, a functional ELISA assay was performed to evaluate the interaction between recombinant human FGF4 and recombinant rat FGFR2. Briefly, FGF4 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to FGFR2-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-FGF4 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 °C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 °C. Finally, add 50 μ L stop solution to the wells and read at 450/630nm immediately. The

binding activity of recombinant human FGF4 and recombinant rat FGFR2 was shown in Figure 1, the EC50 for this effect is 0.612 µg/mL.

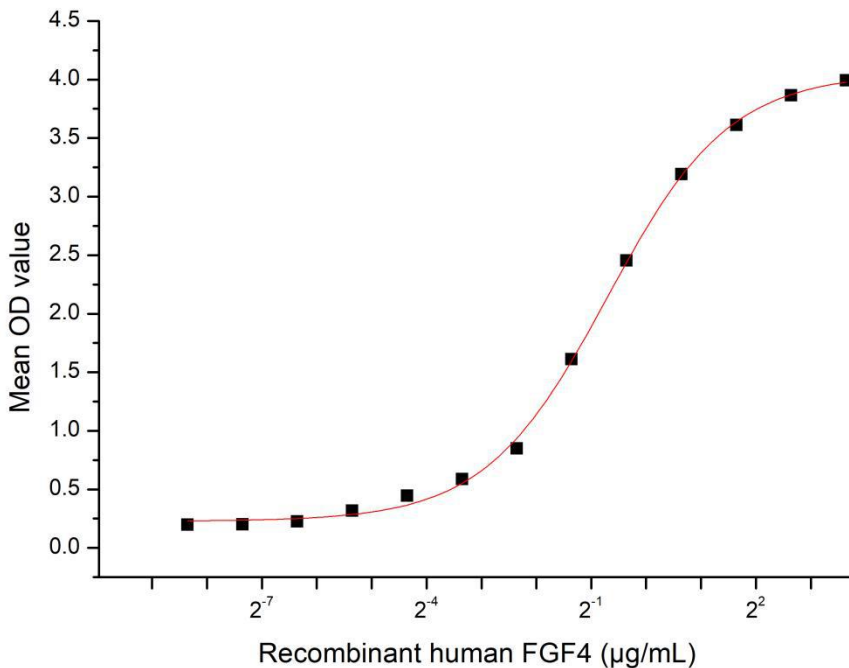


Figure 1. The binding activity of recombinant human FGF4 and recombinant rat FGFR2

[IDENTIFICATION]

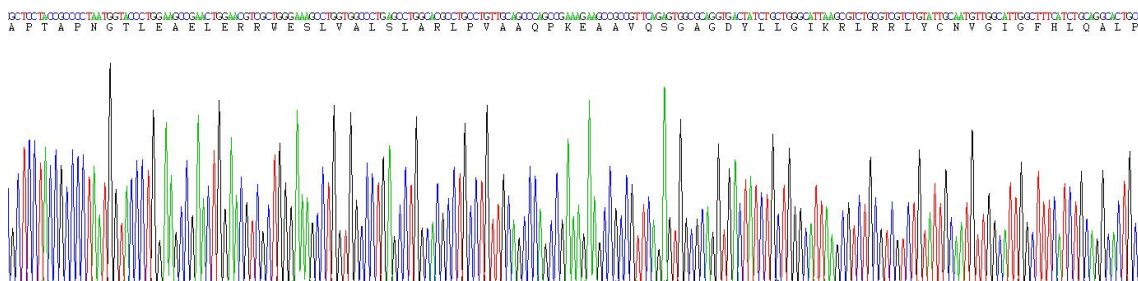


Figure 2. Gene Sequencing (extract)

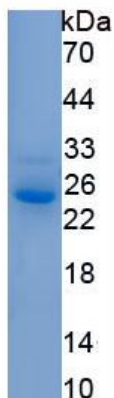


Figure 3. SDS-PAGE

Sample: Active recombinant FGF4, 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.