

APA930Hu01 100µg
Active Extracellular Signal Regulated Kinase 2 (ERK2)
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: Tyr25~Ser360

Tags: N-terminal His-tag

Purity: >95%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5% Trehalose.

Original Concentration: 1000µg/mL

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 7.0

Predicted Molecular Mass: 42.8kDa

Accurate Molecular Mass: 43kDa 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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YTNLSY IGEGAYGMVC SAYDNVNKVR  
VAIKKISPFH HQTYCQRTL R EIKILLRFRH ENIIGINDII RAPTIEQMKD  
VYIVQDLMET DLYKLLKTQH LSNDHICYFL YQILRGLKYI HSANVLHRDL  
KPSNLLLNTT CDLKICDFGL ARVADPDHDH TGFLTEYVAT RWYRAPEIML  
NSKGYTKSID IWSVGCILAE MLSNRPIFPG KHYLDQLNHI LGILGSPSQE  
DLNCIINLKA RNYLLSLPHK NKVPWNRLFP NADSKALDLL DKMLTFNPHK  
RIEVEQALAH PYLEQYYDPS DEPIAEAPFK FDMELDDLPK EKLKELIFEE  
TARFQPGYRS
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[ACTIVITY]

Extracellular Signal Regulated Kinase 2 (ERK2) is a 42-kDa protein serine/threonine kinase that is a member of the MAP kinase family. ERK2 is ubiquitously distributed in tissues with the highest expression in heart, brain, and spinal cord. Depending on the cellular context, the MAPK/ERK cascade mediates diverse biological functions such as cell growth, adhesion, survival and differentiation through the regulation of transcription, translation, cytoskeletal rearrangements. The MAPK/ERK cascade also plays a role in initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors. It is reported that ERK2 can interact with STAT3 and treatment of cells with a MEK-ERK inhibitor blocks STAT3 S727 phosphorylation in response to IL-2. Thus a functional ELISA assay was conducted to detect the interaction of recombinant human ERK2 and recombinant human STAT3. Briefly, ERK2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to STAT3-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-ERK2 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 µL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human ERK2 and recombinant human STAT3 was shown in Figure 1, the EC50 for this effect is 1.06 ug/mL.

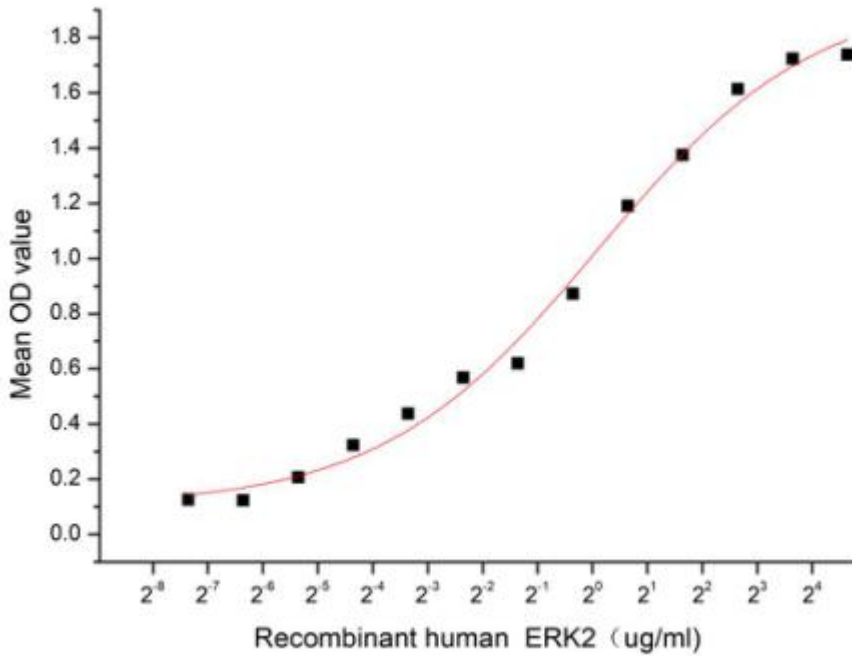


Figure 1. The binding activity of recombinant human ERK2 and recombinant human STAT3

[IDENTIFICATION]

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CTTCACCGCCTCTCTGTGACATGAGGCGGCTTGCGCATGGGTCTGCGTAAATGTCACGCAAGCTCCGGTGATCATCAGAAATCCGACCCCTTTCGGCGCGAGCTCTCCCGCGCGACCCCTGGCGCGGACATGAGGCGGATGAAATCTCTCTGCGCTCAGCATGGAGCATCATTGATTTGAGGCGGCA  
YTNLSYVIGEGAYGMVCSAYDNVYKRYVAIKKISPFEHOTYQCORTLREIKILLRFRHENTIIGINDIIRAF
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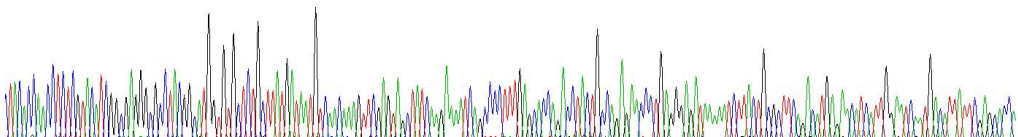


Figure 2. Gene Sequencing (extract)

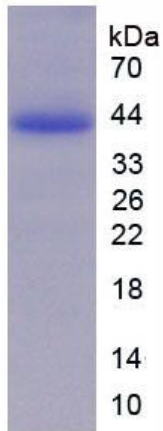


Figure 3. SDS-PAGE

Sample: Active recombinant ERK2, 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.