

Active Extracellular Signal Regulated Kinase 2 (ERK2)

Catalog No.: TP09194

50µg

Sequence Information

Species: Human

Gene ID:5594

Swiss Prot:P28482

Synonyms:MAPK1; P38; P40; ERK2; ERT1;

MAPK2; P42MAPK; P42-MAPK;

PRKM1; PRKM2; P41; P41mapk;

P41-mapk; Mitogen-Activated Protein

Kinase 1; Mitogen-activated protein

kinase 2

Residues:Tyr25~Ser360

YTNLSYIGEGAYGMVCSAYDNVNKVRVAIKKISPFEHQTYCQRTLREIKILLRF
RHENIIGINDIIRAPTIEQMKDVYIVQDLMETDLYKLLKTQHLSNDHICYFLYQ
ILRGLKYIHSANVLRDLKPSNLLLNTTCDLKICDFGLARVADPDHDHTGFLTE
YVATRWYRAPEIMLSKGYTKSIDIWSVGCILAEMLSNRPIFPGKHYLDQLNHI
LGILGSPSQEDLNCIINLKARNYLLSLPHKNKVPWNRLFPNADSKALDLLDKML
TFNPHKRIEVEQALAHYPYLEQYYDPSDEPIAEAPFKFDMELDDLPEKELKELIF
EETARFQPGYRS

Product Information

Source: Prokaryotic expression.

Host: *E.coli*

Tags: N-terminal His-Tag

Subcellular Location: Secreted

Purity: >90%

Traits: Freeze-dried powder

Buffer formulation: PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.

Original Concentration: 200µg/mL

Applications: Positive Control; Immunogen; SDS-PAGE; WB.

(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 ddH₂O to a concentration of 0.1-0.5 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.

[ACTIVITY]

In molecular biology, extracellular signal-regulated kinases (ERKs) or classical MAP kinases are widely expressed protein kinase intracellular signalling molecules that are involved in functions including the regulation of meiosis, mitosis, and postmitotic functions in differentiated cells. Many different stimuli, including growth factors, cytokines, virus infection, ligands for heterotrimeric G protein-coupled receptors, transforming agents, and carcinogens, activate the ERK pathway. Extracellular signal-regulated kinase 2 (ERK2) is also known as mitogen-activated protein kinase 1 (MAPK1). Receptor-linked tyrosine kinases, Ras, Raf, MEK, and MAPK could be fitted into a signaling cascade linking an extracellular signal to MAPK activation. Besides, Protein Tyrosine Phosphatase Receptor Type J (PTPRJ) has been identified as an interactor of ERK2, thus a binding ELISA assay was conducted to detect the interaction of recombinant human ERK2 and recombinant human PTPRJ. Briefly, ERK2 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 µL were then transferred to PTPRJ-coated microtiter wells and incubated for 2h 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, wells were aspirated and washed 3 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 450nm immediately. The binding activity of ERK2 and PTPRJ was shown in Figure 1, and this effect was in a dose dependent manner.

Recombinant Human ERK2 (ng/ml)	Mean OD value
0	0.15
2	0.30
5	0.55
10	1.20
30	1.70
60	2.00

