

## ProQinase™ ERK2

mitogen-activated protein kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: MAPK1

Synonyms: ERK, MAPK2, p41mapk

Product No.: 0634-0000-7

Lot: 008

**Description:** Human ERK2, full length, amino acids M<sub>1</sub>-S<sub>360</sub> (as in [NCBI/Protein](#) entry NP\_002736.3), activated, untagged, expressed in E.coli

**Product identity:** ERK2 Lot 008, was confirmed as ERK2 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 41,762 Da

**Expression host:** E.coli

**Purification:** GST-Affinity Chromatography

**Activation:** With MEK1

**Storage buffer:** 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 20 % glycerol

**Storage temperature:** -80°C

For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

**Protein concentration:** 0.326 µg/µl

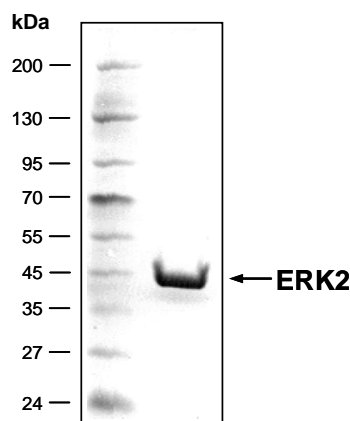
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

**Biochemical Parameters:**

Specific kinase activity (P<sub>i</sub> transfer): 386 pmol/µg × min

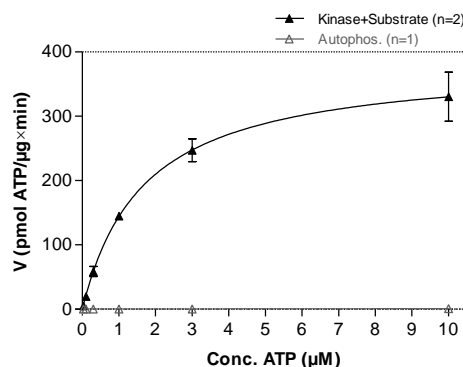
ATP-K<sub>M</sub>: 1.7 µM

**ERK2 Lot 008:  
Coomassie stain**



2.0 µg ERK2

**ERK2 Lot 008:  
Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP**



**Determination of K<sub>M</sub> value & Specific activity:**

- Assay conditions:
  - 60 mM HEPES-NaOH, pH 7.5
  - 3 mM MgCl<sub>2</sub>
  - 3 mM MnCl<sub>2</sub>
  - 3 µM Na-orthovanadate
  - 1.2 mM DTT
  - 50 µg/ml PEG<sub>20,000</sub>
  - ATP (variable)
  - Substrate: recombinant ELK1, 100 µg/ml
  - ERK2: 0.4 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

**Additional assay technology:**

ERK2 Lot 008 was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from Promega ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

## ProQinase™ ERK2

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ERK2 Recombinant Fusion Protein Amino Acid Sequence							
1	GPLAMAAAAA	AGAGPEMVRG	QVFDVGPRYT	NLSYIGEGAY	GMVCSAYDNV	NKVRVAIKKI	60
61	SPFEHQTYCQ	RTLREIKILL	RFRHENIIGI	NDIIRAPTIE	QMKDVYIVQD	LMETDLYKLL	120
121	KTQHLSNDHI	CYFLYQILRG	LKYIHSANVL	HRDLKPSNLL	LNTTCDLKIC	DFGLARVADP	180
181	DHDHTGFLTE	YVATRWRAP	EIMLNSKGYT	KSIDIWSVGC	ILAEMLSNRP	IFPGKHYLDQ	240
241	LNHILGILGS	PSQEDLNCII	NLKARNYLLS	LPHKNKVPWN	RLFPNADSKA	LDLLDKMLTF	300
301	NPHKRIEVEQ	ALAHPLYEQY	YDPSDEPIAE	APFKFDMELD	DLPKEKLEL	IFEETARFQP	360
361	GYRS						420

1-4: legacy from tag cleavage **blue**: ERK2

ERK2 wt <sup>1</sup> Amino Acid Sequence							
1	MAAAAAGAG	PEMVRGQVFD	VGPRYTNSLY	IGEGAYGMVC	SAYDNVNKVR	VAIKKISPFE	60
61	HQTYCQRTL	EIKILLRFRH	ENIIGINDII	RAPTIEQMKD	VYIVQDLMET	DLYKLLKTQH	120
121	LSNDHICYFL	YQILRGLKYI	HSANVLRDL	KPSNLLNLT	CDLKICDFGL	ARVADPDHHD	180
181	TGFLTEYVAT	RWYRAPEIML	NSKGYTKSID	IWSVGCILAE	MLSNRPIFPG	KHYLDQLNHI	240
241	LGILGSPSQE	DLNCIINLKA	RNYLLSLPHK	NKVPWNRLFP	NADSKALDLL	DKMLTFNPHK	300
301	RIEVEQALAH	PYLEQYYDPS	DEPIAEAPFK	FDMELDDLPK	EKLKELIFEE	TARFQPGYRS	360

**blue**: ERK2 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_002736.3