

Certificate of Analysis

MAPK1 (ERK2), 1 mg

Mitogen-Activated Protein Kinase 1, GST-tagged



Part Number: PV3595
Lot Number: 904347K
Immediate Storage: -80°C
Shipping Conditions: dry ice

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Carlsbad, CA 92008
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Description:

Recombinant human full-length protein, GST-tagged, expressed in *E. coli*. Activated *in vitro* by His-tagged MAP2K1.

Manufacturing:

Manufactured under ISO 9001 certification at Life Technologies in Madison, WI, USA.

Specific Activity:

690 nmoles of phosphate transferred to myelin basic protein (MBP) per minute per mg of total protein at 30°C. Activity determined at a final protein concentration of 0.83 µg/mL.

Concentration:

0.36 mg/mL total protein as measured using the Bradford protein assay with BSA as a standard.

Calculated **5,160 nM**.

Aliases:

ERK2, ERK

Storage and Handling:

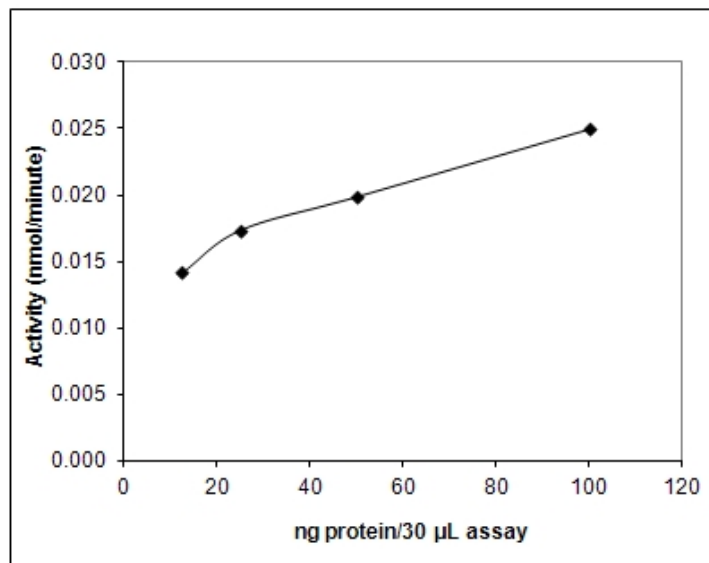
For maximum recovery please spin prior to use. Aliquots of the 5 µg, 10 µg and 20 µg sizes of kinase are not recommended as materials can be used in original packaging until exhausted. For larger sizes, the number of freeze/thaws may be reduced by preparing aliquots, aliquots below 20 µL are not recommended. **Please never store a kinase diluted.** If properly stored at -80°C, this product is guaranteed for 6 months from date of purchase.

Storage Buffer:

50 mM Tris (pH 7.5), 150 mM NaCl, 0.5 mM EDTA, 0.05% Triton® X-100, 2 mM DTT and 50% Glycerol.

QUALITY ASSURANCE

MAPK1 (ERK2) Activity Graph



Dilution Buffer:

20 mM Tris (pH 7.5), 1 mM EGTA, 0.05% Triton® X-100, 0.1 mg/mL BSA, 2 mM DTT and 10% Glycerol.

Assay Conditions:

MAPK1 (ERK2) was pre-diluted in enzyme dilution buffer and assayed in 50 mM Tris (pH 7.5), 10 mM MgCl₂, 1 mM EGTA, 2 mM DTT, 0.01% Triton® X-100, 200 µM ATP, 667 µg/mL myelin basic protein (MBP) and trace [³²P]-γ-ATP for 10 minutes at 30°C.

Gel Information for MAPK1 (ERK2)

Page Description: The SDS-PAGE and/or Native PAGE were run on 4-20% Tris-Glycine Novex® gels (Catalog #: EC6025BOX).

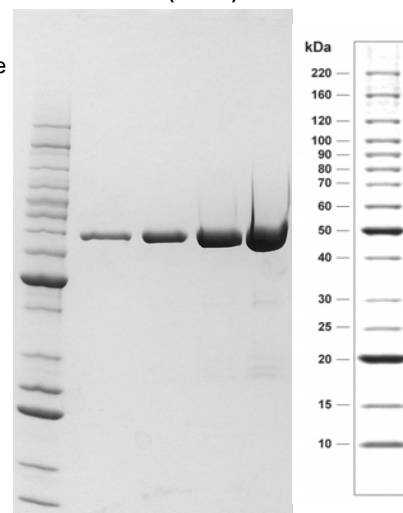
Lane 1: Invitrogen™ BenchMark™ Protein Ladder (Catalog #: 10747-012).

Lane 2: 1 µg MAPK1 (ERK2)

Lane 3: 2 µg MAPK1 (ERK2)

Lane 4: 5 µg MAPK1 (ERK2)

Lane 5: 10 µg MAPK1 (ERK2)



Purity:

95% as determined by a Coomassie® blue stained SDS-PAGE gel.

Molecular Weight:

69.7 kDa calculated from the protein sequence(s). Calculated from the protein sequence(s).

Mass Spectrometry:

MAPK1 (ERK2) was subjected to proteolytic digest followed by mass spec analysis. The resulting MS/MS data verified MAPK1 (ERK2) identity by comparison against the amino acid sequence(s) of the recombinant protein.

Protein sequence alignment with reference sequence(s)

GenBank Accession Number: NP_620407

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1 MSPILGYWKI KGLVQPTRLL LEYLEEKYEE HLYERDEGDK WRNKKFELGL EFPNLPYYID GDVKLTQSMa IIRYIADKHN MLGGCPKERA EISMLEGAVL GST
1 MSPILGYWKI KGLVQPTRLL LEYLEEKYEE HLYERDEGDK WRNKKFELGL EFPNLPYYID GDVKLTQSMa IIRYIADKHN MLGGCPKERA EISMLEGAVL IVGN MAPK1 (ERK2)
1 ----- NP_620407
101 DIRYGVSRIA YSKDFETLKV DFLSKLP EML KMFEDRLCHK TYLNGDHVTH PDFMLYDALD VVLYMDPMCL DAFPKLVCFK KRIEAIQID KYLKSSKYIA
101 DIRYGVSRIA YSKDFETLKV DFLSKLP EML KMFEDRLCHK TYLNGDHVTH PDFMLYDALD VVLYMDPMCL DAFPKLVCFK KRIEAIQID KYLKSSKYIA
1 -----
201 WPLQGWQATF GGGDHPPKSD LVPRPWSNQT SLYKKA
201 WPLQGWQATF GGGDHPPKSD LVPRPWSNQT SLYKKAGFEG DRTMAAAAAA GAGPENVRGQ VFDVGPRYTN LSYIGEGAYG MVCSAYDNVN KVRVAIKKIS
1 -----
236
301 PFEHQTYCQR TLREIKILLR FRHENIIGIN DIIRAPTIEQ MKDVYIVQDL METDLYKLLK TQHLSDHIC YFLYQILRGL KYIHSANVLH RDLKPSNLLL
58 PFEHQTYCQR TLREIKILLR FRHENIIGIN DIIRAPTIEQ MKDVYIVQDL METDLYKLLK TQHLSDHIC YFLYQILRGL KYIHSANVLH RDLKPSNLLL
236
401 NTTCDLKICD FGLARVADPD HDHTGFLTEY VATRWYRAPE IMLNSKGYTK SIDIWSVGC I LAEMLSNRPI FPGKHYLDQL NHILGILGSP SQEDLNCCIIN
158 NTTCDLKICD FGLARVADPD HDHTGFLTEY VATRWYRAPE IMLNSKGYTK SIDIWSVGC I LAEMLSNRPI FPGKHYLDQL NHILGILGSP SQEDLNCCIIN
236
501 LKARNYLLSL PHKNKVPWNR LFPNADSKAL DLLDKMLTFN PHKRIEVEQA LAHPYLEQYY DPSDEPIAEA PFKFDMELDD LPKEKLELI FEETARFQPG
258 LKARNYLLSL PHKNKVPWNR LFPNADSKAL DLLDKMLTFN PHKRIEVEQA LAHPYLEQYY DPSDEPIAEA PFKFDMELDD LPKEKLELI FEETARFQPG
236
601 YRS.
358 YRS

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* highlighted residues denote differences from the reference protein sequence(s).

Becky. Baker, QA Engineer II

Date: 15/Nov/2012

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