

## ProQinase™ ERK5

Mitogen-activated protein kinase 7

Recombinant Human Active Protein Kinase

HGNC Symbol: MAPK7

Synonyms: BMK1, ERK4, PRKM7

Product No.: 1105-0000-1

Lot: 004

**Description:** Human ERK5, internal fragment, amino acids L<sub>5</sub>-Q<sub>397</sub> (as in [NCBI/Protein](#) entry NP\_002740.2), N-terminal FLAG, C-terminal HIS<sub>8</sub> fusion protein, expressed in Sf9 insect cells

**Product identity:** ERK5 Lot 004, was confirmed as ERK5 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 50,464 Da

**Expression host:** Sf9 insect cells

**Purification:** Immobilized Metal Affinity Chromatography

**Activation:** This kinase was not activated by special procedures

**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:** 0.298 µg/µl  
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

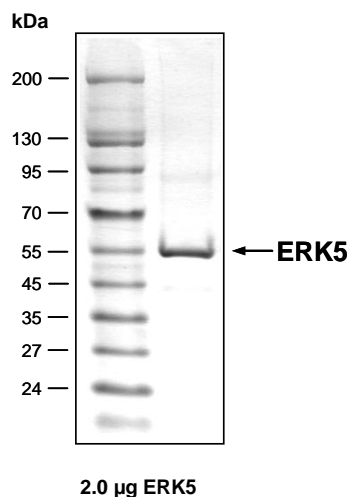
### Biochemical Parameters:

Specific kinase activity (P<sub>i</sub> transfer): 0.8 pmol/µg × min  
ATP-K<sub>M</sub>: 3.1 µM

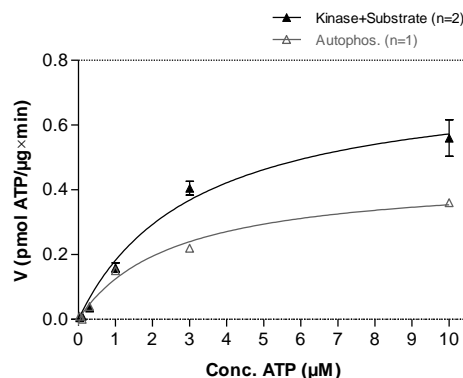
### Additional assay technology:

ERK5 Lot 004 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

### ERK5 Lot 004: Coomassie stain



### ERK5 Lot 004: 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: RBER-CHKtide, 100 µg/ml
  - Kinase: 4 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

## ProQinase™ ERK5

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HIS-ERK5 Recombinant Fusion Protein Amino Acid Sequence							
1	MDYKDDDDKD	YKDDDDKDYK	DDDDKDYKDD	DDKSGGSLK	EEDGEDGSAE	PPGPVKAEPA	60
61	HTAASVAAKN	LALLKARSFD	VTFDVGDEYE	IIETIGNGAY	GVVSSARRRL	TGQOVAIKKI	120
121	PNAFDVVTNA	KRTLRELKIL	KHFKHDNIIA	IKDILRPTVP	YGEFKSVYVV	LDLMESDLHQ	180
181	IIHSSQPLTL	EHVRYFLYQL	LRGLKYMHTA	QVIHRDLKPS	NLLVNENCEL	KIGDFGMARG	240
241	LCTSPAHEHQY	FMTEYVATRW	YRAPELMLSL	HEYTQAILDW	SVGCIFGEML	ARRQLFPGKN	300
301	YVHQLQLIMM	VLGTPSPAVI	QAVGAERVRA	YIQSLPPRQP	VPWETVYPGA	DRQALSLLGR	360
361	MLRFEPSARI	SAAAALRHPF	LAKYHDPDDE	PDCAPPFDFA	FDREALTRER	IKEAIVAEIE	420
421	DFHARREGIR	QKLLLEHHHHH	HHH				480

1-218: GST **Red**: HIS6-tag **Pink**: FLAG-tag sequence **blue**: ERK5 fragment

ERK5 wt <sup>1</sup> Amino Acid Sequence							
1	MAEPLKEEDG	EDGSAEPPGP	VKAEPHAHTAA	SVAAKNLALL	KARSFDVTFD	VGDEYEIIEY	60
61	IGNGAYGVVS	SARRRLTGQQ	VAIKKIPNAF	DVVTNAKRTL	RELKILKHFK	HDNIIAIKDI	120
121	LRPTVPYGEF	KSVYVVDLM	ESDLHQIHS	SQPLTLEHVR	YFLYQLLRGL	KYMHTAQAQVIH	180
181	RDLKPSNLLV	NENCELKIGD	FGMARGLCTS	PAEHQYFMTE	YVATRWYRAP	ELMLSLHEYT	240
241	QAIDLWSVGC	IFGEMLARRQ	LFPGKNYVHQ	LQLIMMVLGT	PSPAVIQAVG	AERVRAIYQS	300
301	LPPRQVPVWE	TVYPGADRQA	LSLLGRMLRF	EPSARISAAA	ALRHPFLAKY	HDPDDEPDCA	360
361	PPFDFAFDRE	ALTRERIKEA	IVAEIEDFHA	RREGIRQQIR	FQPSLQPVAS	EPGCPDVEMP	420
421	SPWAPSGDCA	MESPPPAPP	CPGPAPDTID	LTLQPPPPVS	EPAPPKKGDA	ISDNTKAALK	480
481	AALLKSLRSR	LRDGPSAPLE	APEPRKPVTA	QERQREREK	RRRRQERAKE	REKRRQERER	540
541	KERGAGASGG	PSTDPLAGLV	LSDNDRSLE	RWTRMARPA	PALTSVPAPA	PAPTPTPTPV	600
601	QPTSPPPGPV	AQPTGPPQS	AGSTSGPVPQ	PACPPPGPAP	HPTGPPGPIP	VPAPPQIATS	660
661	TSLLAQSLV	PPPGLPGSST	PGVLPYFPPG	LPPPDAGGAP	QSSMSESPDV	NLVTQQLSKS	720
721	QVEDPLPPVF	SGTPKGSAG	YGVGFDLEEF	LNQSFDMGVA	DGPQDQGADS	ASLSASLLAD	780
781	WLEGHGMNPA	DIESLQREIQ	MDSPLLADL	PDLQDP			840

**blue**: ERK5 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_002740.2