

## NEK2

NIMA related kinase 2

Recombinant Human Active Protein Kinase

HGNC Symbol: NEK2

Synonyms: HsPK21, HSPK 21, NEK2A, NLK1

Product No.: 0290-0000-1

Lot: 001

**Description:** Human NEK2, full length, amino acids M<sub>1</sub>-R<sub>445</sub> (as in [NCBI/Protein](#) entry NP\_002488.1), N-terminal GST-HIS<sub>6</sub> fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

**Product identity:** NEK2, Lot 002, was confirmed as NEK2 by Western Blotting using a NEK2 specific antibody

**Theoretical MW**<sub>Fusion Protein</sub>: 82,687 Da

**Expression host:** Sf9 insect cells

**Purification:** GST-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, 15 mM reduced glutathione, 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:** 0.164 µg/µl

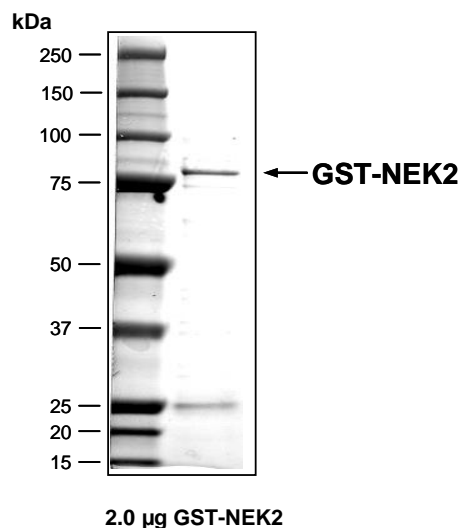
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

### Biochemical Parameters:

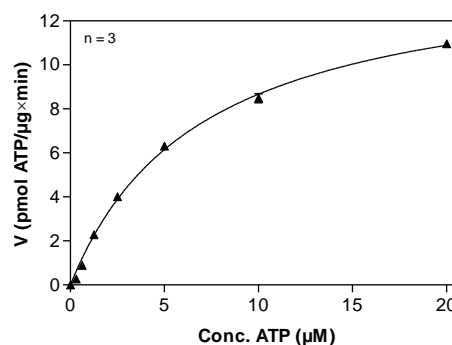
Specific kinase activity (P<sub>i</sub> transfer): 15 pmol/µg × min

ATP-K<sub>M</sub>: 6.9 µM

### NEK2 Lot 001: Coomassie stain



### NEK2 Lot 001: Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP



- 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: Myelin Basic Protein, 100 µg/ml  
Kinase: 2 µg/ml
- Filter binding assay  
MSFC membrane (Millipore)

### Additional assay technology:

NEK2 Lot 001 was also successfully tested by ProQinase 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

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## NEK2

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GST-NEK2 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GIYARGIQAS	MGARGRLQGT	MPSRAEDYEV	LYTIGTGSYG	RCQKIRRKSD	300
301	GKILVWKELD	YGSMTAEKQ	MLVSEVNLLR	ELKHPNIVRY	YDRIIDRTNT	TLYIVMEYCE	360
361	GGDLASVITK	GTKERQYLDE	EFVLRVMTQL	TLALKECHRR	SDGGHTVLHR	DLKPANVFLD	420
421	GKQNVKLGDF	GLARILNHDT	SFAKTFVGTP	YYMSPEQMNR	MSYNEKSDIW	SLGCLLYELC	480
481	ALMPPTAFS	QKELAGKIRE	GKFRIPYRY	SDELNEIITR	MLNLKDYHRP	SVEEILENPL	540
541	IADLVADEQR	RNLERRGRQL	GEPEKSQDSS	PVLSSELKKE	IQLQERERAL	KAREERLEQK	600
601	EQELCVRERL	AEDKLARAEN	LLKNYSLLKE	RKFLSLASNP	ELNLPSSEVI	KKKVHFGES	660
661	KENIMRSENS	ESQLTSKSKC	KDLKKRLHAA	QLRAQALSDI	EKNYQLKSRQ	ILGMR	720

1-218: GST   Red: HIS6-tag   Pink: Thrombin cleavage site   blue: NEK2

NEK2 wt <sup>1</sup> Amino Acid Sequence							
1	MPSRAEDYEV	LYTIGTGSYG	RCQKIRRKSD	GKILVWKELD	YGSMTAEKQ	MLVSEVNLLR	60
61	ELKHPNIVRY	YDRIIDRTNT	TLYIVMEYCE	GGDLASVITK	GTKERQYLDE	EFVLRVMTQL	120
121	TLALKECHRR	SDGGHTVLHR	DLKPANVFLD	GKQNVKLGDF	GLARILNHDT	SFAKTFVGTP	180
181	YYMSPEQMNR	MSYNEKSDIW	SLGCLLYELC	ALMPPTAFS	QKELAGKIRE	GKFRIPYRY	240
241	SDELNEIITR	MLNLKDYHRP	SVEEILENPL	IADLVADEQR	RNLERRGRQL	GEPEKSQDSS	300
301	PVLSSELKKE	IQLQERERAL	KAREERLEQK	EQELCVRERL	AEDKLARAEN	LLKNYSLLKE	360
361	RKFLSLASNP	ELNLPSSEVI	KKKVHFGES	KENIMRSENS	ESQLTSKSKC	KDLKKRLHAA	420
421	QLRAQALSDI	EKNYQLKSRQ	ILGMR				480

blue: NEK2 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](https://www.ncbi.nlm.nih.gov/protein/NP_002488.1) accession number NP\_002488.1

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