

ProQinase™ ARK5

NUAK family kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: NUAK1

Synonyms: KIAA0537

Product No.: 0300-0000-1

Lot: 004

Description: Human ARK5, full length, amino acids M₁-N₆₆₁ (as in [NCBI/Protein](#) entry NP_055655.1), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: ARK5 Lot 004, was confirmed as ARK5 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 104,220 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: 0.066 µg/µl

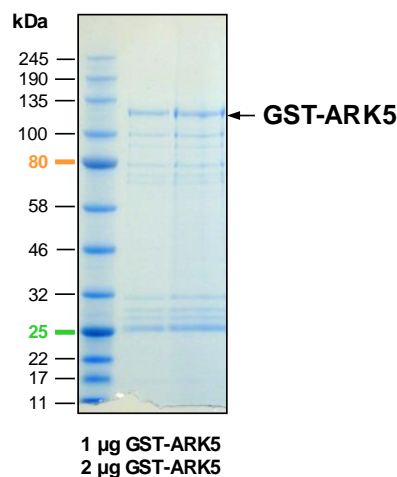
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

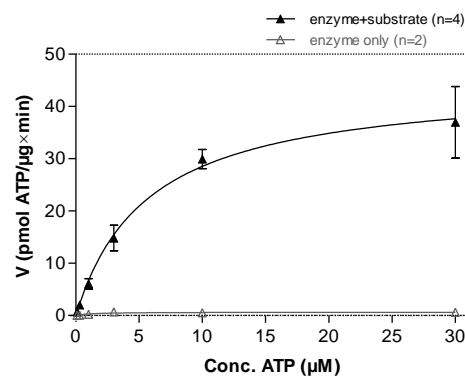
Specific kinase activity (P_i transfer): 45 pmol/µg × min

ATP-K_M: 5.7 µM

ARK5 Lot 004: Coomassie stain



ARK5 Lot 004: Determination of V_{max} and K_M value for ATP



Determination of K_M value & Specific activity:

- Assay conditions:
 - 60 mM HEPES-NaOH, pH 7.5
 - 3 mM MgCl₂
 - 3 mM MnCl₂
 - 3 µM Na-orthovanadate
 - 1.2 mM DTT
 - 50 µg/ml PEG_{20,000}
 - ATP (variable)
 - Substrate: CHKtide peptide 50 µg/ml
 - Kinase: 4 µg/ml
- Filter binding assay
 - MSPH membrane (Millipore)

Additional assay technology:

ARK5 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

ProQinase™ ARK5

Product No.: 104,220 Da

GST-ARK5 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQG WQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GIYARGIQAS	MEGAAAPVAG	DRPDLGLGAP	GSPREAVAGA	TAALEPRKPR	300
301	GVKRHHHKHN	LKHRYELQET	LGKGTYGKVK	RATERFSGRV	VAIKSIRKDK	IKDEQDMVHI	360
361	RREIEIMSSL	NPHIISIYE	VFENKDKIVI	IMEYASKGEL	YDIISERRRL	SERETRHFRR	420
421	QIVSAVHYCH	KNGVVHRDLK	LENILLDDNC	NIKIADFGLS	NLYQKDKFLQ	TFCGSPLYAS	480
481	PEIVNGRPYR	GPEVDSWALG	VLLYTLVYGT	MPFDGFDHKN	LIRQISSGEY	REPTQPSDAR	540
541	GLIRWMLMVN	PDRRATIEDI	ANHWWVNWGY	KSSVCD CDAL	HDSSEPLLAR	IIDWHHRSTG	600
601	LQADTEAKMK	GLAKPTTSEV	MLERQ RSLKK	SKKENDFAQS	GQDAVPESPS	KLSSKRPKGI	660
661	LKKRSNSEHR	SHSTGFIEGV	VGPALPSTFK	MEQDLCRTGV	LLPSSPEAEV	PGKLSPKQSA	720
721	TMPKKGILKK	TQQRESGYYS	SPERSESEL	LDSNDVMGSS	IPSPSPDPA	RVTSHSLSCR	780
781	RKGILKHSSK	YSAGTMDPAL	VSP EPTLES	LSEPGVPAEG	LSRSYSRPSS	VISDDSVLSS	840
841	DSFDLLDLQE	NRPARQRIRS	CVSAENFLQI	QDFEGLQNRP	RPQYLKRYRN	RLADSSFSLL	900
901	TMDMDVTQVY	KQALEICSKL	N				960

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **blue**: ARK5

ARK5 wt ¹ Amino Acid Sequence							
1	MEGAAAPVAG	DRPDLGLGAP	GSPREAVAGA	TAALEPRKPH	GVKRHHHKHN	LKHRYELQET	60
61	LGKGTYGKVK	RATERFSGRV	VAIKSIRKDK	IKDEQDMVHI	RREIEIMSSL	NPHIISIYE	120
121	VFENKDKIVI	IMEYASKGEL	YDIISERRRL	SERETRHFRR	QIVSAVHYCH	KNGVVHRDLK	180
181	LENILLDDNC	NIKIADFGLS	NLYQKDKFLQ	TFCGSPLYAS	PEIVNGRPYR	GPEVDSWALG	240
241	VLLYTLVYGT	MPFDGFDHKN	LIRQISSGEY	REPTQPSDAR	GLIRWMLMVN	PDRRATIEDI	300
301	ANHWWVNWGY	KSSVCD CDAL	HDSSEPLLAR	IIDWHHRSTG	LQADTEAKMK	GLAKPTTSEV	360
361	MLERQ RSLKK	SKKENDFAQS	GQDAVPESPS	KLSSKRPKGI	LKKRSNSEHR	SHSTGFIEGV	420
421	VGPALPSTFK	MEQDLCRTGV	LLPSSPEAEV	PGKLSPKQSA	TMPKKGILKK	TQQRESGYYS	480
481	SPERSESEL	LDSNDVMGSS	IPSPSPDPA	RVTSHSLSCR	RKGILKHSSK	YSAGTMDPAL	540
541	VSP EPTLES	LSEPGVPAEG	LSRSYSRPSS	VISDDSVLSS	DSFDLLDLQE	NRPARQRIRS	600
601	CVSAENFLQI	QDFEGLQNRP	RPQYLKRYRN	RLADSSFSLL	TMDMDVTQVY	KQALEICSKL	660
661	N						720

blue: ARK5 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_055655.1