

NPM1 ALK

Nucleophosmin anaplastic lymphoma kinase fusionprotein

Recombinant Human Active Protein Kinase

HGNC Symbol: n/a

Synonyms: n/a

Product No.: 1236-0000-1

Lot: 005

Description: Human pathological fusionprotein NPM1 ALK, full length, amino acids M₁-P₆₈₀ (as in NCBI/Protein entry AAA58698.1), untagged, expressed in Sf9 insect cells

Product identity: NPM1 ALK Lot 005, was confirmed as NPM1 ALK by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 75,695 Da

Expression: Baculovirus infected Sf9 cells

Purification: GST-Affinity Chromatography, followed by 3C mediated removal of the GST tag

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

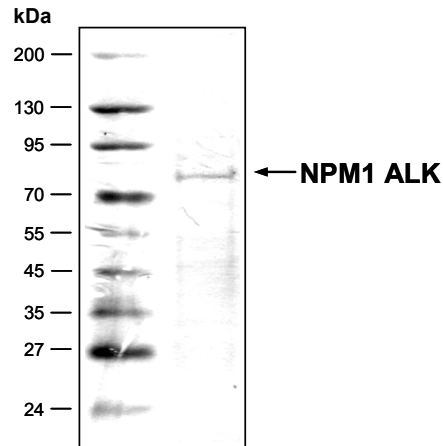
Storage temperature: -80°C
Avoid repeated freeze-thaw cycles!

Protein concentration: 0.189 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

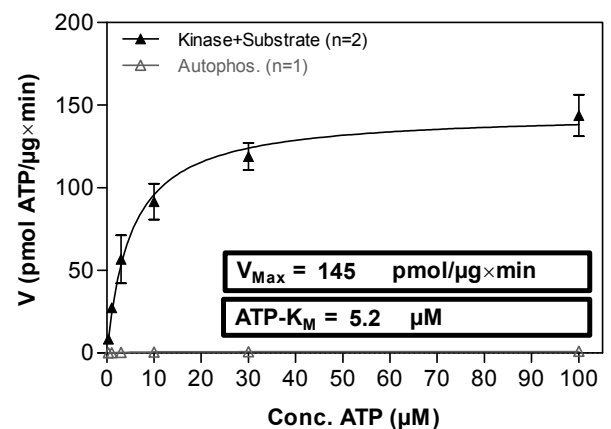
Specific activity: 145 pmol/µg×min
ATP-K_M: 5.2 µM

**NPM1 ALK Lot 005:
Coomassie stain**



2.0 µg NPM1 ALK

**NPM1 ALK Lot 005:
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: TRK-C derived peptide
 - NPM1 ALK: 1.0 µg / ml
- Filter binding assay
 - MSPH membrane (Millipore)

Additional assay technology: NPM1 ALK Lot 005

was also successfully tested by ProQinase for the use with the ADP-Glo™ Kinase assay from



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NPM1 ALK

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NPM1 ALK Recombinant Fusion Protein Amino Acid Sequence								
1	GPLA	MEDSMD	MDMSPLRPQN	YLFGCELKAD	KDYHFKVDND	ENEHQLSLRT	VSLGAGAKDE	60
61	LHIVEAEAMN	YEGSPIKVTL	ATLKMSVQPT	VSLGGFEITP	PVVLRLKCGS	GPVHISGQHL		120
121	VVYRRKHQEL	QAMQELQSP	EYKLSKLRTS	TIMTDYNPNY	CFAGKTSSIS	DLKEVPRKNI		180
181	TLIRGLGHGA	FGEVYEGQVS	GMPNDPSPLQ	VAVKTLPEVC	SEQDELDFLM	EALIISKFNH		240
241	QNIVRCIGVS	LQSLPRFILL	ELMAGGDLKS	FLRETRPRPS	QPSSLAMLDL	LHVARDIACG		300
301	CQYLEENHFI	HRDIAARNCL	LTCPGPGRVA	KIGDFGMARD	IYRASYYRKG	GCAMLVVKWM		360
361	PPEAFMEGIF	TSKTDTSWFG	VLLWEIFSLG	YMPYPSKSNQ	EVLEFVTSGG	RMDPPKNCPG		420
421	PVYRIMTQCW	QHQPEDRPNF	AIILERIEYC	TQDPDVINTA	LPIEYGPLVE	EEEKVPVRPK		480
481	DPEGVPPLL	SQAQKREER	SPAAPPPLPT	TSSGKAAKPP	TAAEVSVRVP	RGPAVEGGHV		540
541	NMAFSQSNPP	SELH	KVHGSR	NKPTSLWNPT	YGSWFTEKPT	KKNNPIAKKE	PH	600
601	GSCTVPPNVA	TGRLPGASLL	LEPSSLTANM	KEVPLFRLRH	FPCGNVNYGY	QQQGLPLEAA		660
661	TAPGAGHYED	TILKSKNSMN	QPGP					720

1-4: legacy of 3C cleavage blue:NPM1ALK boxed: variant amino acids

NPM1 ALK wt ¹ amino acid sequence							
1	MEDSMDMDMS	PLRPQNYLFG	CELKADKDYH	FKVDNDENEH	QLSLRTVSLG	AGAKDELHIV	60
61	EAEAMNYEGS	PIKVTLATLK	MSVQPTVSLG	GFEITPPVVL	RLKCGSGPVH	ISGQHLVVYR	120
121	RKHQELQAMQ	MELQSPEYKL	SKLRTSTIMT	DYNPNYCFAG	KTSSISDLKE	VPRKNITLIR	180
181	GLGHGAFGEV	YEGQVSGMPN	DPSPLQVAVK	TLPEVCSEQD	ELDFLMEALI	ISKFNHQNIV	240
241	RCIGVSLQSL	PRFILLELMA	GGDLKSFLRE	TRPRPSQPSS	LAMLDLLHVA	RDIAACGCQYL	300
301	EENHFHHRDI	AARNCLLTCP	GPGRVAKIGD	FGMARDIYRA	SYRKGKGCAM	LPVKWMPPEA	360
361	FMEGIFTSKT	DTWSFGVLLW	EIFSLGYMPY	PSKSNQEVLE	FVTSGGRRMDP	PKNCPGPVYR	420
421	IMTQCWQHQP	EDRPNFMAIL	ERIEYCTQDP	DVINTALPIE	YGPLVEEEEEK	VPVRPKDPEG	480
481	VPPLLVSQQA	KREEERSPAA	PPPLPTTSSG	KAAKKPTAAE	VSVRVPRGPA	VEGGHVNMAF	540
541	SQSNPPSELH	KVHGSRNKPT	SLWNPTYGSW	FTEKPTKKNN	PIAKKEPHDR	GNLGLEGSCT	600
601	VPPNVATGRL	PGASLLLEPS	SLTANMKEVP	LFRLRHFP	CG NVNYGYQQQG	LPLEAATAPG	660
661	AGHYEDTILK	SKNSMNQPGP					720

bold letters: expressed part of NPM1 (blue) and ALK (green) RED letters: variant in Fusionprotein

¹NCBI/Protein accession number AAA58698.1

K551R and D589E: SNP variations see NCBI/dbSNP IDs: rs1881420, rs1881421