

ProQinase™ AKT1

AKT serine/threonine kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: AKT1

Synonyms: AKT, PKB, PRKBA, RAC, RAC-alpha

Product No.: 1379-0000-2

Lot: 007

Description: Human AKT1, full length, amino acids M₁-A₄₈₀ (as in [NCBI/Protein](#) entry NP_005154.2), activated with PDK1, N-terminal GST-HIS₆ fusion protein with a 3C cleavage site, expressed in Sf9 insect cells.

Product identity: AKT1 LOT007, has been verified by mass spectrometry LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 81191 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: With PDK1

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 10 µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.111 µg/µl

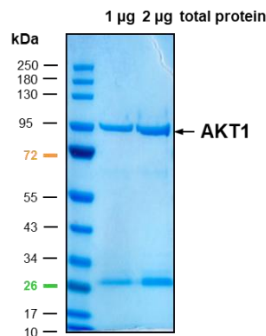
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

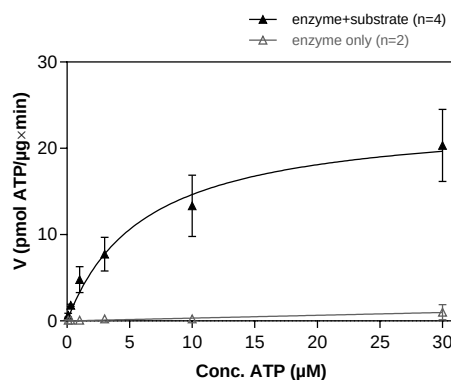
Specific kinase activity (P_i transfer): 24 pmol/µg*min

ATP-K_M: 6.2 µM

AKT1 LOT007: Coomassie stain



AKT1 LOT007: Determination of V_{max} and K_M value for ATP



- 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: GSK3 derived peptide 10 µg/ml
 - Kinase: 1 µg/ml

Assay technology:
Radiometric filter binding assay
MSIP membrane (96 well plate, Millipore)

Sequence information

GST-AKT1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHGG	RDSLEVLFGG	240
241	PLAMVMSDVA	IVKEGWLHKK	GEYIKTWRPR	YFLLKNDGTF	IGYKERPDQV	DQREAPLNNE	300
301	SVAQCQLMKT	ERPRPNTFII	RCLQWTTVIE	RTFHVETPEE	REEWTTAIQT	VADGLKKQEE	360
361	EEMDFRSGSP	SDNSGAEEME	VSLAKPKHRV	TMNEFEYLKL	LGKGTFGKVI	LVKEKATGRY	420
421	YAMKILKKEV	IVAKDEVAHT	LTENRVLQNS	RHPFLTALKY	SFQTHDRLCF	VMEYANGGEL	480
481	FFHLSRERVF	SEDRARFYGA	EIVSALDYLH	SEKNVVYRDL	KLENLMLDKD	GHIKITDFGL	540
541	CKEGIKDGAT	MKTFCGTPEY	LAPEVLEDND	YGRAVDWWGL	GVVMYEMMCG	RLPFYNQDHE	600
601	KLFEILMEE	IRFPRTLGP	AKSLLSGLLK	KDPKQRLGGG	SEDAKEIMQH	RFFAGIVWQH	660
661	VYEKKLSPPF	KPQVTSETDT	RYFDEEFTAQ	MITITPPDQD	DSMECVDSE	RPHFPQFSYS	720
721	ASGTA						780

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: AKT1

AKT1 wt ¹ Amino Acid Sequence							
1	MSDVAIVKEG	WLHKRGEYIK	TWRPRYFLLK	NDGTFIGYKE	RPQDQVDQEA	PLNNFSVAQC	60
61	QLMKTERPRP	NTFIIRCLQW	TTVIERTFHV	ETPEEREWE	TAIQTVADGL	KKQEEEEEMDF	120
121	RSGSPSDNSG	AEEMEVSLLK	PKHRVTMNEF	EYLKLLGKGT	FGKVILVKEK	ATGRYYAMKI	180
181	LKKEVIVAKD	EVAHTLTENR	VLQNSRHPFL	TALKYSFQTH	DRLCFVMEYA	NGGELFFHLS	240
241	RERVSEDRA	RFYGAIEVSA	LDYLHSEKNV	VYRDLKLENL	MLDKDGHIKI	TDFGLCKEGI	300
301	KDGATMKTFC	GTPEYLAPV	LEDNDYGRAV	DWWGLGVVMY	EMMCGRLPFY	NQDHEKLFEL	360
361	IIMEEIRFPR	TLGPEAKSL	SGLLKDPKQ	RLGGGSEDAK	EIMQHRFFAG	IVWQHVYEKK	420
421	LSPPFKPQVT	SETDTRYFDE	EFTAQMITIT	PPDQDDSMC	VDSERRPHFP	QFSYSASGTA	480

blue: AKT1 sequence expressed in recombinant protein

¹NCBI/Protein accession number NP_005154.2

Recombinant Proteins