

## AKT1 aa1-480

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: 004

**Description:** Human AKT1, full length, amino acids M<sub>1</sub>-A<sub>480</sub> (as in [NCBI/Protein](#) entry NP\_005154.2), activated with PDK1, N-terminal GST-HIS<sub>6</sub> fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

**Product identity:** AKT1 wt Lot 004, was confirmed as AKT1 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 81,191 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 10µl are not advisable. Avoid repeated freeze-thaw cycles!

**Protein concentration:** 0.224 µg/µl

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

**Biochemical Parameters:**

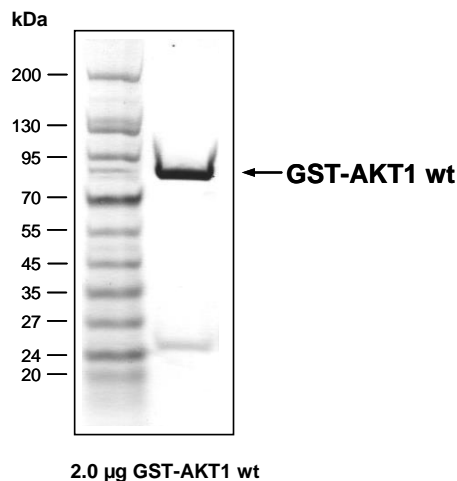
Specific kinase activity (P<sub>i</sub> transfer): 55 pmol/µg × min

ATP-K<sub>M</sub>: 5 µM

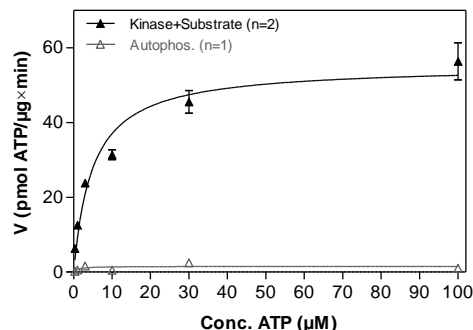
**Additional assay technology:**

AKT1 aa1-480 Lot 004 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

**AKT1 aa1-480 Lot 004:  
Coomassie stain**



**AKT1 aa1-480 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: R<sub>11</sub>-GSK3(14-27), 100 µg/ml
  - AKT1 1-480: 2 µg/ml
- Filter binding assay
  - MSPH membrane (Millipore)

## AKT1 aa1-480

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GST-AKT1 aa1-480 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDKVLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RDSLEVLFCG	240
241	PLAMVMSDVA	IVKEGWLHKR	GEYIKTWRPR	YFLLKNDGTF	IGYKERPDV	DQREAPLNNE	300
301	SVAQCQLMKT	ERPRNTFII	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	IRFPRTLPE	AKSLLSGLLK	KDPKQRLGGG	SEDAKEIMQH	RFFAGIVWQH	660
661	VYEKLSPPF	KPQVTSETDT	RYFDEEFTAQ	MITITPPDQD	DSMECVDSER	RPHFPQFSYS	720
721	ASGTA						780

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

AKT1 wt <sup>1</sup> Amino Acid Sequence							
1	MSDVAIVKEG	WLHKRGEYIK	TWRPRYFLK	NDGTFIGYKE	RPQVDVQREA	PLNNFSVAQC	60
61	QLMKTERPRP	NTFIIRCLQW	TTVIERTFHV	ETPEEREWT	TAIQTIVADGL	KKQEEEEEMDF	120
121	RSGSPSDNSG	AEEMEVSLAK	PKHRVTMNEF	EYLKLLGKGT	FGKVILVKEK	ATGRYYAMKI	180
181	LKKEVIVAKD	EVAHTLTENR	VLQNSRHPFL	TALKYSFQTH	DRLCFVMEYA	NGGELFFHLS	240
241	RERVFSEDRA	RFYGAIEVSA	LDYLHSEKNV	VYRDLKLENL	MLDKDGHIKI	TDFGLCKEGI	300
301	KDGATMKTFC	GTPEYLPEV	LEDNDYGRAV	DWWGLGVVMY	EMMCGRLPFY	NQDHEKLFEL	360
361	ILMEEIRFPR	TLGPEAKSL	SGLLKKDPKQ	RLGGGSEDAK	EIMQHRFFAG	IVWQHVVYEK	420
421	LSPPFKQVVT	SETDTRYFDE	EFTAQMITIT	PPDQDSMEC	VDSERRPHFP	QFSYSASGTA	480

blue: AKT1 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](https://www.ncbi.nlm.nih.gov/Protein) accession number NP\_005154.2

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