

## ProQinase™ AKT2 aa1-481

AKT serine/threonine kinase 2

Recombinant Human Active Protein Kinase

HGNC Symbol: AKT2

**Synonyms:** PKBB, PKBBETA, PKB beta, PRKBB, RAC-BETA, RAC-PK-beta

**Product No.:** 1577-0000-1

**Lot:** 003

**Description:** Human AKT2, full length, amino acids M<sub>1</sub>-E<sub>481</sub> (as in [NCBI/Protein](#) entry NP\_001617.1), N-terminal GST-HIS<sub>6</sub> fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

**Product identity:** AKT2 Lot 002, was confirmed as AKT2 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 84,273 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:** 0.471 µg/µl

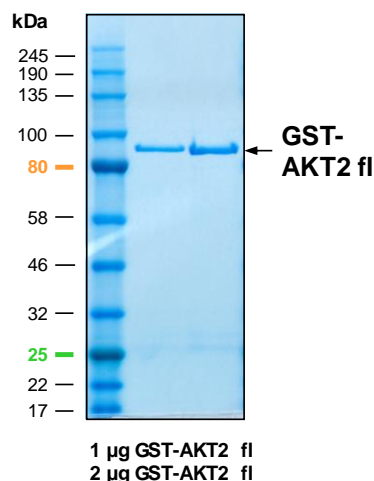
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

**Biochemical Parameters:**

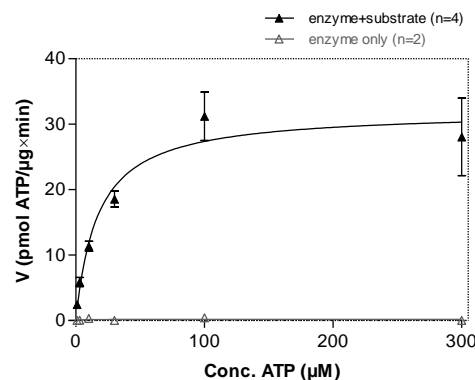
Specific kinase activity (P<sub>i</sub> transfer): 32 pmol/µg × min

ATP-K<sub>M</sub>: 17 µM

### AKT2 aa1-481 Lot003: Coomassie stain



### AKT2 aa1-481 Lot003: 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: GSK3-derived peptide 100 µg/ml
  - Kinase: 1 µg/ml
- Filter binding assay
  - MSPH membrane (Millipore)

## ProQinase™ AKT2 aa1-481

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GST-AKT2 aa1-481 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	PLAMVMNEVS	VIKEGWLHKR	GEYIKTWRPR	YFLLKSDGSF	IGYKERPEAP	DQTLPLNPF	300
301	SVAECQLMKT	ERPRPNTFVI	RCLQWTTVIE	RTFHVDSPE	REEWMRAIQM	VANSLKQRAP	360
361	GEDPMDYKCG	SPSDSSTTEE	MEVAVSKARA	KVTMNDFDYL	KLLGKGTFGK	VILVREKATG	420
421	RYYAMKILRK	EVIIAKDEVA	HTVTESRVLQ	NTRHPFLTAL	KYAFQTHDRL	CFVMEYANGG	480
481	ELFFHLSRER	VFTEERARFY	GAEIVSALEY	LHSRDVVYRD	IKLENLMLDK	DGHIKITDFG	540
541	LCKEGISDGA	TMKTFCGTPE	YLAPEVLEDN	DYGRAVDWWG	LGVMYEMMC	GRLPFYNQDH	600
601	ERLFELILME	EIRFPRTLSP	EAKSLLAGLL	KKDKPQRLGG	GPSDAKEVME	HRFFLSINWQ	660
661	DVVQKLLPP	FKPQVTSEVD	TRYFDDEFTA	QSITITPPDR	YDSLGLLELD	QRTFFPQFSY	720
721	SASIRE						780

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: AKT2

AKT2 wt <sup>1</sup> Amino Acid Sequence							
1	MNEVSVIKEG	WLHKRGEYIK	TWRPRYFLLK	SDGSFIGYKE	RPEAPDQTLP	PLNNFSVAEC	60
61	QLMKTERPRP	NTFVIRCLQW	TTVIERTFHV	DSPDEREEM	RAIQMVANSL	KQAPGEDPM	120
121	DYKCGSPSDS	STTEEMEVAV	SKARAKVTMN	DFDYLLKLGK	GTFGKVILVR	EKATGRYYAM	180
181	KILRKEVIAA	KDEVAHTVTE	SRVLQNRHP	FLTALKYAFQ	THDRLCFVME	YANGGELFFH	240
241	LSRERVFTTE	RARFYGAEIV	SALEYLHSRD	VVYRDIKLEN	LMLDKDGHK	ITDFGLCKEG	300
301	ISDGATMKT	CGTPEYLAP	VLEDNDYGRA	VDWWGLGVVM	YEMMCGRLPF	YNQDHERLFE	360
361	LILMEEIRFP	RTLSPEAKSL	LAGLLKKDPK	QRLGGGPSDA	KEVMEHRFFL	SINWQDVVQK	420
421	KLLPPFKPQV	TSEVDTRYFD	DEFTAQSITI	TPPDYRDSL	LLELDQRTHE	PQFSYSASIR	480
481	E						540

blue: AKT2 sequence expressed in recombinant protein

<sup>1</sup>NCBI/Protein accession number NP\_001617.1