

## ProQinase™ TBK1

TANK-binding kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: TBK1

Synonyms: NAK, T2K

Product No.: 0749-0000-2

Lot: 008

**Description:** Human TBK1, full length, amino acids M<sub>1</sub>-L<sub>729</sub> (as in [NCBI/Protein](#) entry NP\_037386.1), N-terminal GST-HIS<sub>6</sub> fusion protein with a 3C cleavage site, expressed in Sf9 insect cells

**Product identity:** TBK1 Lot 008, was confirmed as TBK1 by mass spectrometry LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 112,161 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 10 µl are not advisable. Avoid repeated freeze-thaw cycles!

**Protein concentration:** 0.238 µg/µl

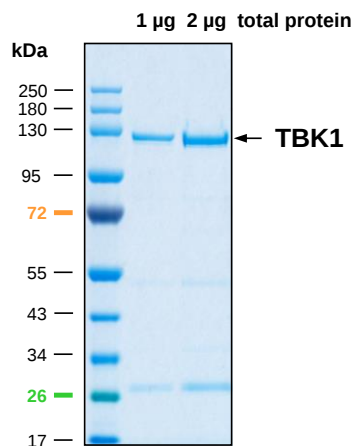
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

**Biochemical Parameters:**

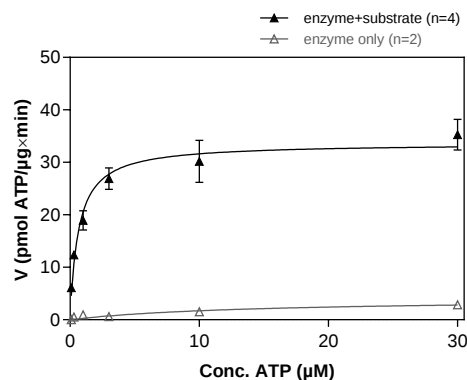
Specific kinase activity (P<sub>i</sub> transfer): 34 pmol/µg x min

ATP-K<sub>M</sub>: 0.64 µM

### TBK1 Lot 008: Coomassie stain



### TBK1 Lot 008: Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP



- 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: Casein 100 µg/ml
  - Kinase: 0.4 µg/ml
- Filter binding assay
  - MSFC membrane (Millipore)

### Additional assay technology:

TBK1 Lot 008 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.

## TBK1

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## GST-TBK1 Recombinant Fusion Protein Amino Acid Sequence

|     |            |            |            |            |            |            |      |
|-----|------------|------------|------------|------------|------------|------------|------|
| 1   | MSPILGYWKI | KGLVQPTRL  | LEYLEEKYEE | HLYERDEGDK | WRNKKFELGL | EFNLPYYID  | 60   |
| 61  | GDVKLTQSMA | IIRYIADKHN | MLGGCPKERA | EISMLEGAVL | DIRYGVSRIA | YSKDFETLKV | 120  |
| 121 | DFLSKLPEML | KMFEDRLCHK | TYLNGDHVTH | PDFMLYDALD | VVLYMDPMCL | DAFPKLVCFK | 180  |
| 181 | KRIEAIQID  | KYLKSSKYIA | WPLQGWQATF | GGGDHPPKSD | PMGHHHHHG  | RDSLEVLFGQ | 240  |
| 241 | PLAMLMQSTS | NHLWLLSDIL | QGATANVFR  | GRHKKTGDLF | AIKFVNNISF | LRPVDVQMR  | 300  |
| 301 | FEVLKKNLHK | NIVKLFAIEE | ETTRHKVLI  | MEFCPCGSly | TVLEEPSNAY | GLPESEFLIV | 360  |
| 361 | LRDVVGGMNH | LRNGIVHRD  | IKPGNIMRVI | GEDGQSVYKL | TDFGAARELE | DDEQFVSLYG | 420  |
| 421 | TEEYLHPDMY | ERAVLRKDHQ | KKYGATVDLW | SIGVTfYHAA | TGSLPFRPFE | GPRRNKEVMY | 480  |
| 481 | KIITGKPSGA | ISGVQKAENG | PIDWSGDMPV | SCSLSRGLQV | LLTPVLANIL | EADQEKCWGF | 540  |
| 541 | DQFFAETSDI | LHRMVIHVFS | LQQMTAHKIY | IHSYNTATIF | HELVKQTKI  | ISSNQELIYE | 600  |
| 600 | GRRLVLEPGR | LAQHFPKTE  | ENPIFVVSRE | PLNTIGLIYE | KISLPKVHPR | YDLGDASMA  | 660  |
| 661 | KAITGVVCYA | CRIASLTLly | QELMRKGIW  | LIELIKDDYN | ETVHKKEVV  | ITLDFCIRNI | 720  |
| 721 | EKTVKVYEKL | MKINLEAAEL | GEISDIHTKL | LRLSSSQGTI | ETSLQDIDSR | LSPGGLADA  | 780  |
| 781 | WAHQEGTHPK | DRNVEKLQVL | LNCMTEIYYQ | FKKDKAERRL | AYNEEQIHKF | DKQKLYYHAT | 840  |
| 841 | KAMTHFTDEC | VKKYEAFLNK | SEEWIRKMLH | LRLQLSLTN  | QCQDIEEEVS | KYQEYTNELQ | 900  |
| 901 | ETLPQKMFta | SSGIKHTMTP | IYPSSNTLVE | MTLGMKKLKE | EMEGVVKELA | ENNHILERFG | 960  |
| 961 | SLTMDGGLRN | VDCL       |            |            |            |            | 1020 |

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: TBK1

TBK1 wt<sup>1</sup> Amino Acid Sequence

|     |            |            |            |            |            |            |     |
|-----|------------|------------|------------|------------|------------|------------|-----|
| 1   | MQSTSNHLWL | LSDILGQAT  | ANVFRGRHKK | TGDLFAIKVF | NNISFLRPVD | VQMRFEVLK  | 60  |
| 61  | KLNHKNIVKL | FAIEEETTR  | HKVLIMEFCP | CGSLYTVLEE | PSNAYGLPES | EFLIVLRDVV | 120 |
| 121 | GGMHLRENG  | IVHRDIKPGN | IMRVIGEDGQ | SVYKLTDfGA | ARELEDDEQF | VSLYGTEEYL | 180 |
| 181 | HPDMYRAVL  | RKDHQKKYGA | TVDLWSIGVT | FYHAATGSLP | FRPFEGPRRN | KEVMYKIITG | 240 |
| 241 | KPSGAISGVQ | KAENGPIDWS | GDMPVSCSLs | RGLQVLLTPV | LANILEADQE | KCWGFDQFFA | 300 |
| 301 | ETSDILHRMV | IHVFSLQQMT | AHKIYIHSYN | TATIFHELvy | KQTKIISNQ  | ELIYEGRRLV | 360 |
| 361 | LEPGRLAQHF | PKTTEENPIF | VVSREPLNTI | GLIYEKISLP | KVHPRYDLG  | DASMAKITG  | 420 |
| 421 | VVCYACRIAS | TLLLYQELMR | KGIRWLIELI | KDDYNETVHK | KTEVVITLDF | CIRNIEKTVK | 480 |
| 481 | VYEKLKINL  | EAAELGEISD | IHTKLLRLSS | SQGTIETSLQ | DIDSRLSPGG | SLADAWAQE  | 540 |
| 541 | GTHPKDRNVE | KLQVLLNCMT | EIYYQFKKDK | AERRLAYNEE | QIHKFDKQKL | YYHATKAMTH | 600 |
| 600 | FTDECVKKYE | AFLNKSEEWI | RKMLHLRKQL | LSLTNQCFDI | EEEVSKYQEy | TNELQETLPQ | 660 |
| 661 | KMFTASSGIK | HTMTPIYPSS | NTLVEMTLGM | KKLKEEMEGV | VKELAENNHl | LERFGSLTMD | 720 |
| 721 | GGLRNVDCI  |            |            |            |            |            | 780 |

blue: TBK1 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_037386.1

Recombinant Proteins