

## ProQinase™ TRK-A

neurotrophic receptor tyrosine kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: NTRK1

Synonyms: MTC; TRK; TRK1; TRKA

Product No.: 0311-0000-2

Lot: 003

**Description:** Human TRK-A, C-terminal fragment, amino acids G<sub>443</sub>-G<sub>796</sub> (as in [NCBI/Protein](#) entry NP\_002520.2), N-terminal GST-HIS<sub>6</sub> fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

**Product identity:** TRK-A wt Lot 003, was confirmed as TRK-A by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 69,726 Da Da

**Expression host:** Sf9 insect cells

**Purification:** GST-Affinity Chromatography

**Activation:** in vitro auto activation

**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:** 0.214 µg/µl

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

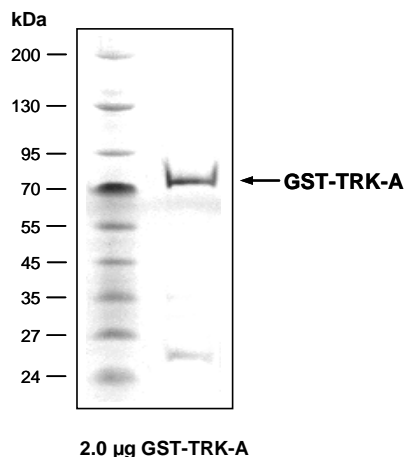
### Biochemical Parameters:

Specific kinase activity (P<sub>i</sub> transfer): 100 pmol/µg × min  
ATP-K<sub>M</sub>: 2.3 µM

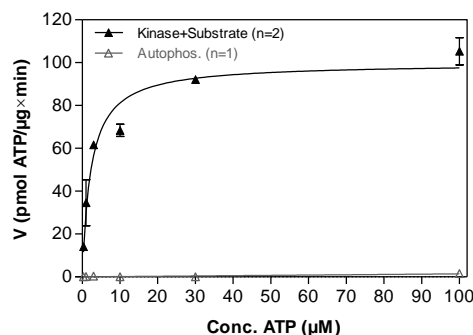
### Additional assay technology:

TRK-A wt Lot 003 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

### TRK-A wt Lot 003: Coomassie stain



### TRK-A wt Lot 003: 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:TRK-C derived peptide, 80 µg/ml
  - Kinase: 1 µg/ml
- Filter binding assay  
MSPH membrane (Millipore)

## ProQinase™ TRK-A

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GST-TRK-A Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG <b>HHHHHG</b>	RRRASVAAGI	240
241	<b>LVPRG</b> SPGLD	GIYARGIQAS	<b>MGRRNKFGIN</b>	<b>RPAVLAPEDG</b>	<b>LAMSLHFMTL</b>	<b>GGSSLSPTGE</b>	300
301	<b>KGSLQGHII</b>	<b>ENPQYFSDAC</b>	<b>VHHIKRRDIV</b>	<b>LKWELGEGAF</b>	<b>GKVFLAECHN</b>	<b>LLPEQDKMLV</b>	360
361	<b>AVKALKEASE</b>	<b>SARQDFQREA</b>	<b>ELLTMLQHQH</b>	<b>IVRFFGVCTE</b>	<b>GRPLLMVFEY</b>	<b>MRHGDLNRF</b>	420
421	<b>RSHGPDAKLL</b>	<b>AGGEDVAPGP</b>	<b>LGLGQLLAVA</b>	<b>SQVAAGMVYL</b>	<b>AGLHFVHRDL</b>	<b>ATRNCLVGGQ</b>	480
481	<b>LVVKIGDFGM</b>	<b>SRDIYSTDY</b>	<b>RVGGRTMLPI</b>	<b>RWMPPEISILY</b>	<b>RKFTTESDVW</b>	<b>SFGVVLWEIF</b>	540
541	<b>TYGKQPWYQL</b>	<b>SNTEAIDCIT</b>	<b>QGRELERPRA</b>	<b>CPPEVYAIMR</b>	<b>GCWQREPQQR</b>	<b>HSIKDVHARL</b>	600
601	<b>QALAQAPPVY</b>	<b>LDVLG</b>					660

1-218: GST **Red:** HIS6-tag **Pink:** Thrombin cleavage site **blue:** TRK-A fragment

TRK-A wt <sup>1</sup> Amino Acid Sequence							
1	MLRGRRGQL	GWHSWAAGPG	SLLAWLILAS	AGAAPCPDAC	CPHGSSGLRC	TRDGALDSLH	60
61	HLPGAENLTE	LYIENQQHLQ	HLELRDLRGL	GELRNLTIVK	SGLRFVAPDA	FHFTPRLSRL	120
121	NLSFNALSL	SWKTVQGLSL	QELVLSGNPL	HCSCALRWLQ	RWEEEGGGV	PEQKLQCHGQ	180
181	GPLAHMPNAS	CGVPTLKVQV	PNASVDVGGD	VLLRCQVEGR	GLEQAGWILT	ELEQSATVMK	240
241	SGGLPSLGLT	LANVTSDLNR	KNVTCWAEND	VGRAEVSQVQ	NVSFPASVQL	HTAVEMHHWC	300
301	IPFSVDGQPA	PSLRWLFNGS	VLNETSFIFT	EFLEPAANET	VRHGCLRNLQ	PTHVNNNGNYT	360
361	LLAANPFGQA	SASIMAAFMD	NPFEPNPEDP	IPVSFSPVDT	NSTSGDPVEK	KDETPFGVSV	420
421	AVGLAVFACL	FLSTLLLVLN	<b>KCGRRNKFGI</b>	<b>NRPAVLAPED</b>	<b>GLAMSLHFMT</b>	<b>LGSSLSPTGE</b>	480
481	<b>GKSGLQGHI</b>	<b>IENPQYFSDA</b>	<b>CVHHIKRDI</b>	<b>VLKWELGEGA</b>	<b>FGKVFLAECH</b>	<b>NLLPEQDKML</b>	540
541	<b>VAVKALKEAS</b>	<b>ESARQDFQRE</b>	<b>AELLTMLQHQ</b>	<b>HIVRFFGVCT</b>	<b>EGRPLLMVFE</b>	<b>YMRHGDLNRF</b>	600
601	<b>LRSHGPDAKL</b>	<b>LAGGEDVAPG</b>	<b>PLGLGQLLAV</b>	<b>ASQVAAGMVY</b>	<b>LAGLHFVHRD</b>	<b>LATRNCLVGGQ</b>	660
661	<b>GLVVKIGDFG</b>	<b>MSRDIYSTDY</b>	<b>YRVGGRTMLP</b>	<b>IRWMPPEISIL</b>	<b>YRKFTTESDV</b>	<b>WSFGVVLWEI</b>	720
721	<b>FTYKQPWYQ</b>	<b>LSNTEAIDCI</b>	<b>TQGRELERPR</b>	<b>ACPPEVYAIM</b>	<b>RGCWQREPQQ</b>	<b>RHSIKDVHAR</b>	780
781	<b>LQALAQAPPV</b>	<b>YLDVLG</b>					840

**blue:** TRK-A sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_002520.2