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Datasheet for ABIN3094257

TRKB Protein (AA 32-822) (rho-1D4 tag)

1 Image

Overview

Quantity:	0.5 mg
Target:	TRKB (NTRK2)
Protein Characteristics:	AA 32-822
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This TRKB protein is labelled with rho-1D4 tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB), Crystallization (Crys)

Product Details

Sequence: CPTSCCKCSAS RIWCSDPSPG IVAFPRLEPN SVDPENITEI FIANQKRLEI INEDDVEAYV
GLRNLTI VDS GLKFVAHKAF LKNSNLQHIN FTRNKLTSL S RKHFRHLDLS ELILVGNPFT
CSCDIMWIKT LQEAKSSPDT QDLYCLNESS KNIPLANLQI PNCGLPSANL AAPNLTVEEG
KSITLSCSVA GDPVPMYWD VGNLVSKHMN ETSHTQGSLR ITNISSDDSG KQISCVAENL
VGEDQDSVNL TVHFAPTITF LESPTSDHHW CIPFTVKGNP KPALQWFYNG AILNESKYIC
TKIHVTNHT E YHGCLQLDNP THMNNGDYTL IAKNEYGKDE KQISAHFMGW PGIDDGANPN
YPDVIYEDYG TAANDIGDTT NRSNEIPSTD VTDKTGREHL SVYAVVVIAS VVGFCLLVML
FLLKLARHSK FGMKGPASVI SNDDDSASPL HHISNGSNTP SSSEGGPDAV IIGMTKIPVI
ENPQYFGITN SQLKPDTFVQ HIKRHNIVLK RELGEGAFGK VFLAECYNLC PEQDKILVAV
KTLKDASDNA RKDFHREAEL LTNLQHEHIV KFYGVCEVDG PLIMVFYMK HGDLNKFLRA
HGPDAVLMAE GNPPELTQS QMLHIAQQA AGMVYLASQH FVHRDLATRN CLVGENLLVK
IGDFGMSRDV YSTDYYRVGG HTMLPIRWMP PESIMYRKFT TESDVVSLGV VLWEIFTYGG

QPWYQLSNNE VIECITQGRV LQRPRTCPQE VYELMLGCWQ REPHMRKNIK GIHTLLQNLA
KASPVYLDIL G

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human NTRK2 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's protParam tool to determine the absorption coefficient of each protein.

Purification:

Three step purification of membrane proteins expressed in baculovirus infected SF9 insect cells:

1. Membrane proteins are fractionated by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot.
2. The best performing detergent is used for solubilization and the proteins are purified via their rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot.
3. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Product Details

Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin-free.
Grade:	Crystallography grade

Target Details

Target:	TRKB (NTRK2)
Alternative Name:	NTRK2 (NTRK2 Products)

Background: Receptor tyrosine kinase involved in the development and the maturation of the central and the peripheral nervous systems through regulation of neuron survival, proliferation, migration, differentiation, and synapse formation and plasticity. Receptor for BDNF/brain-derived neurotrophic factor and NTF4/neurotrophin-4. Alternatively can also bind NTF3/neurotrophin-3 which is less efficient in activating the receptor but regulates neuron survival through NTRK2. Upon ligand-binding, undergoes homodimerization, autophosphorylation and activation. Recruits, phosphorylates and/or activates several downstream effectors including SHC1, FRS2, SH2B1, SH2B2 and PLCG1 that regulate distinct overlapping signaling cascades. Through SHC1, FRS2, SH2B1, SH2B2 activates the GRB2-Ras-MAPK cascade that regulates for instance neuronal differentiation including neurite outgrowth. Through the same effectors controls the Ras-PI3 kinase-AKT1 signaling cascade that mainly regulates growth and survival. Through PLCG1 and the downstream protein kinase C-regulated pathways controls synaptic plasticity. Thereby, plays a role in learning and memory by regulating both short term synaptic function and long-term potentiation. PLCG1 also leads to NF-Kappa-B activation and the transcription of genes involved in cell survival. Hence, it is able to suppress anoikis, the apoptosis resulting from loss of cell-matrix interactions. May also play a role in neurotrophin-dependent calcium signaling in glial cells and mediate communication between neurons and glia.

{ECO:0000269|PubMed:15494731}.

Molecular Weight:	89.5 kDa Including tag.
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UniProt:	Q16620
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Pathways:	RTK Signaling , Neurotrophin Signaling Pathway , cAMP Metabolic Process , Skeletal Muscle Fiber Development , Feeding Behaviour , Dicarboxylic Acid Transport
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Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies
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Application Details

as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Comment: In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process