Datasheet for ABIN3114306

TEK Protein (AA 23-1124) (rho-1D4 tag)

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Overview

Quantity:	1 mg
Target:	TEK
Protein Characteristics:	AA 23-1124
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This TEK protein is labelled with rho-1D4 tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA, Crystallization (Crys)

Product Details

Sequence:	AMDLILINSL PLVSDAETSL TCIASGWRPH EPITIGRDFE ALMNQHQDPL EVTQDVTREW AKKVVWKREK ASKINGAYFC EGRVRGEAIR IRTMKMRQQA SFLPATLTMT VDKGDNVNIS FKKVLIKEED AVIYKNGSFI HSVPRHEVPD ILEVHLPHAQ PQDAGVYSAR YIGGNLFTSA FTRLIVRRCE AQKWGPECNH LCTACMNNGV CHEDTGECIC PPGFMGRTCE KACELHTFGR TCKERCSGQE GCKSYVFCLP DPYGCSCATG WKGLQCNEAC HPGFYGPDCK LRCSCNNGEM CDRFQGCLCS PGWQGLQCER EGIQRMTPKI VDLPDHIEVN SGKFNPICKA SGWPLPTNEE MTLVKPDGTV LHPKDFNHTD HFSVAIFTIH RILPPDSGVW VCSVNTVAGM VEKPFNISVK VLPKPLNAPN VIDTGHNFAV INISSEPYFG DGPIKSKKLL YKPVNHYEAW QHIQVTNEIV TLNYLEPRTE YELCVQLVRR GEGGEGHPGP VRRFTTASIG LPPPRGLNLL PKSQTTLNLT WQPIFPSSED DFYVEVERRS VQKSDQQNIK VPGNLTSVLL NNLHPREQYV VRARVNTKAQ GEWSEDLTAW TLSDILPPQP ENIKISNITH SSAVISWTIL DGYSISSITI RYKVQGKNED QHVDVKIKNA TITQYQLKGL EPETAYQVDI FAENNIGSSN PAFSHELVTL PESQAPADLG

	GGKMLLIAIL GSAGMTCLTV LLAFLIILQL KRANVQRRMA QAFQNVREEP AVQFNSGTLA LNRKVKNNPD PTIYPVLDWN DIKFQDVIGE GNFGQVLKAR IKKDGLRMDA AIKRMKEYAS KDDHRDFAGE LEVLCKLGHH PNIINLLGAC EHRGYLYLAI EYAPHGNLLD FLRKSRVLET DPAFAIANST ASTLSSQQLL HFAADVARGM DYLSQKQFIH RDLAARNILV GENYVAKIAD FGLSRGQEVY VKKTMGRLPV RWMAIESLNY SVYTTNSDVW SYGVLLWEIV SLGGTPYCGM TCAELYEKLP QGYRLEKPLN CDDEVYDLMR QCWREKPYER PSFAQILVSL NRMLEERKTY VNTTLYEKFT YAGIDCSAEE AA **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 TEK 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 receival 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 fractioned 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

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	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 chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin-free.
Grade:	Crystallography grade

Target Details

Target:	TEK
Alternative Name:	TEK (TEK Products)
Background:	Tyrosine-protein kinase that acts as cell-surface receptor for ANGPT1, ANGPT2 and ANGPT4 and regulates angiogenesis, endothelial cell survival, proliferation, migration, adhesion and cell spreading, reorganization of the actin cytoskeleton, but also maintenance of vascular quiescence. Has anti-inflammatory effects by preventing the leakage of proinflammatory plasma proteins and leukocytes from blood vessels. Required for normal angiogenesis and heart development during embryogenesis. Required for post-natal hematopoiesis. After birth, activates or inhibits angiogenesis, depending on the context. Inhibits angiogenesis and promotes vascular stability in quiescent vessels, where endothelial cells have tight contacts. In quiescent vessels, ANGPT1 oligomers recruit TEK to cell-cell contacts, forming complexes with TEK molecules from adjoining cells, and this leads to preferential activation of phosphatidylinositol 3-kinase and the AKT1 signaling cascades. In migrating endothelial cells that lack cell-cell adhesions, ANGT1 recruits TEK to contacts with the extracellular matrix, leading to the formation of focal adhesion complexes, activation of PTK2/FAK and of the downstream kinases MAPK1/ERK2 and MAPK3/ERK1, and ultimately to the stimulation of sprouting angiogenesis. ANGPT1 signaling triggers receptor dimerization and autophosphorylation at specific tyrosine residues that then serve as binding sites for scaffold proteins and effectors. Signaling is modulated by ANGPT2 that has lower affinity for TEK, can promote TEK autophosphorylation in the absence of ANGPT1, but inhibits ANGPT1-mediated signaling by competing for the same binding site. Signaling is also modulated by formation of heterodimers with TIE1, and by proteolytic processing that gives rise to a soluble TEK extracellular domain. The soluble extracellular domain modulates signaling by functioning as

Target Details

	decoy receptor for angiopoietins. TEK phosphorylates DOK2, GRB7, GRB14, PIK3R1, SHC1 and TIE1. {ECO:0000269|PubMed:12816861, ECO:0000269|PubMed:14665640, ECO:0000269|PubMed:15284220, ECO:0000269|PubMed:15851516, ECO:0000269|PubMed:18366015, ECO:0000269|PubMed:18425119, ECO:0000269|PubMed:18425120, ECO:0000269|PubMed:19223473, ECO:0000269|PubMed:20651738, ECO:0000269|PubMed:9204896}.
Molecular Weight:	124.9 kDa Including tag.
UniProt:	Q02763
Pathways:	RTK Signaling, Growth Factor Binding

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a gurantee 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)

