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Datasheet for ABIN3134798

## EPH Receptor A4 Protein (EPHA4) (AA 20-986) (rho-1D4 tag)

### Overview

Quantity:	1 mg
Target:	EPH Receptor A4 (EPHA4)
Protein Characteristics:	AA 20-986
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This EPH Receptor A4 protein is labelled with rho-1D4 tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

### Product Details

Sequence: VTGSRVYPAN EVTLLDSRSV QGELGWIASP LEGGWEEVSI MDEKNTPIRT YQVCNVMEAS  
QNNWLRTDWI TREGAQRVYI EIKFTLRDCN SLPGVMGTCK ETFNLYYYES DNDKERFIRE  
SQFGKIDTIA ADESFTQVDI GDRIMKLNTE IRDVGPLSKK GFYLAQFDVG ACIALVSVRV  
FYKKCPLTVR NLAQFPDTIT GADTSSLVEV RGSCVNNSEE KDVPKMYCGA DGEWLVPIGN  
CLCNAGHEEQ NGECQACKIG YYKALSTDAS CAKCPHYSYS VWEGATSCTC DRGFFRADND  
AASMPCTRPP SAPLNLSNV NETSVNLEWS SPQNTGGRQD ISYNNVCKKC GAGDPSKCRP  
CGSGVHYTPQ QNGLKTRRVS ITDLLAHTNY TFEIWA VNGV SKYNPSPDQS VSVTVTTNQA  
APSSIALVQA KEVTRYSVAL AWLEPDRPNG VILEYEVKYY EKDQNERYSR IVRTAARNTD  
IKGLNPLTSY VFHVRARTAA GYGDFSEPLE VTTNTVPSRI IGDGANSTVL LVSVSGSVVL  
VVILIAAFVI SRRRSKYSKA KQEADDEEKHL NQGVRTYVDP FTYEDPNQAV REFAKEIDAS  
CIKIEKVIGV GEFGEVCSGR LKVP GKREIC VAIKTLKAGY TDKQRRDFLS EASIMGQFDH  
PNIHLEGVW TKCKPVMIIIT EYMENGLSDA FLRKNDGRFT VIQLVGMLRG IGSGMKYLSLSD

MSYVHRDLAA RNILVNSNLV CKVSDFGMSR VLEDDPEAAY TTRGGKIPR WTAPEAIAYR  
KFTSASDVWS YGIVMWEVMS YGERPYWDMS NQDVIKAIIEE GYRLPPPMDC PIALHQLMLD  
CWQKERSDRP KFGQIVNMLD KLIRNPNSLK RTGSESSRPN TALLDPSSPE FSAVVSVDGW  
LQAIKMDRYK DNFTAAGYTT LEAVVHMSQD DLARIGITAI THQNKILSSV QAMRTQMQQM  
HGRMVPV

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

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### Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Epha4 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.

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### 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

## Product Details

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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

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Target: EPH Receptor A4 (EPHA4)

Alternative Name: Epha4 ([EPHA4 Products](#))

Background: Receptor tyrosine kinase which binds membrane-bound ephrin family ligands residing on adjacent cells, leading to contact-dependent bidirectional signaling into neighboring cells. The signaling pathway downstream of the receptor is referred to as forward signaling while the signaling pathway downstream of the ephrin ligand is referred to as reverse signaling. Highly promiscuous, it has the unique property among Eph receptors to bind and to be physiologically activated by both GPI-anchored ephrin-A and transmembrane ephrin-B ligands including EFNA1 and EFNB3. Upon activation by ephrin ligands, modulates cell morphology and integrin-dependent cell adhesion through regulation of the Rac, Rap and Rho GTPases activity. Plays an important role in the development of the nervous system controlling different steps of axonal guidance including the establishment of the corticospinal projections. May also control the segregation of motor and sensory axons during neuromuscular circuit development. In addition to its role in axonal guidance plays a role in synaptic plasticity. Activated by EFNA1 phosphorylates CDK5 at 'Tyr-15' which in turn phosphorylates NGEF regulating RHOA and dendritic spine morphogenesis. In the nervous system, plays also a role in repair after injury preventing axonal regeneration and in angiogenesis playing a role in central nervous system vascular formation. Additionally, its promiscuity makes it available to participate in a variety of cell-cell signaling regulating for instance the development of the thymic epithelium.

{ECO:0000269|PubMed:15537875, ECO:0000269|PubMed:16802330, ECO:0000269|PubMed:16818734, ECO:0000269|PubMed:17143272, ECO:0000269|PubMed:17719550, ECO:0000269|PubMed:17785183, ECO:0000269|PubMed:18094260, ECO:0000269|PubMed:18403711, ECO:0000269|PubMed:9789074}.

Molecular Weight: 108.8 kDa Including tag.

## Target Details

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UniProt: [Q03137](#)

Pathways: [RTK Signaling](#)

## Application Details

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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 guarantee though.

Comment: Protein has not been tested for activity yet. 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

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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)