

Datasheet for ABIN3130830

**AGRN Protein (AA 987-1950) (rho-1D4 tag)**[Go to Product page](#)**1** Image

## Overview

Quantity:	1 mg
Target:	AGRN
Protein Characteristics:	AA 987-1950
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This AGRN protein is labelled with rho-1D4 tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA, Crystallization (Crys)

## Product Details

Sequence:	ASCYNSPLGC CSDGKTPSLD SEGSNCPATK AFQGVLELEG VEGQELFYTP EMADPKSELF GETARSIEST LDDLFRNSDV KKDFWSIRLR ELGPGKLVRA IVDVHFDPTT AFQAPDVGQA LLQIQVSRP WALAVRRPLR EHVRFDFDW FPTFFTGAAT GTTAAVATAR ATTVSRLSAS SVTPRVPSY TSRPVGRTTA PLTTRRPPTT TASIDRPRTT GPQRPPKSCD SQPCLHGGTC QDLDSGKGFS CSCTAGRAGT VCEKVQLPSV PAFKGHSFLA FPTLRAYHTL RLALFRALE TEGLLLYNGN ARGKDFLALA LLDGHVQFRF DTGSGPAVLT SLVPVEPGRW HRLELSRHWR QGTLSVDGEA PVVGESPSGT DGLNLDTKLY VGGLPEEQVA TVLDRTSVGI GLKGCIRMLD INNQQLELSD WQRAVVQSSG VGECGDHPCS PNPCHGGALC QALEAGVFLC QCPPGRFGPT CADEKNPCQP NPCHGSAPCH VLSRGGAKCA CPLGRSGSFC ETVLENAGSR PFLADFNGFS YLELKGLHTF ERDLGEKMAL EMVFLARGPS GLLLYNGQKT DGKGDFVSLA LHNRLHLEFRY DLGKGAAIIR SKEPIALGTW VRVFLERNR KGAQVGDGP RVLGESPKSR KVPHTMLNLK EPLYVGGAPD FSKLARGAAV ASGFDGAIQL VSLRGHQLLT QEHVLRADV APFAGHPCTQ
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AVDNPCLNGG SCIPREATYE CLCPGGFSGL HCEKGIVEKS VGDLETAFD GRITYEYLNA  
VTESELTNEI PAPETLDSRA LFSEKALQSN HFELSLRTEA TQGLVLWIGK VGERADYMAL  
AIVDGHQLQLS YDLGSQPVVL RSTVKVNTNR WLRVRAHREH REGSLQVGNE APVTGSSPLG  
ATQLDTDGAL WLGGLQKLPV GQALPKAYGT GFVGCLRDVV VGHRQLHLLD DAVTKPELRP CPTL

**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 Agrn 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 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 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

## Product Details

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: AGRN

Alternative Name: Agrn ([AGRN Products](#))

Background: Isoform 1: heparan sulfate basal lamina glycoprotein that plays a central role in the formation and the maintenance of the neuromuscular junction (NMJ) and directs key events in postsynaptic differentiation. This neuron-specific (z+) isoform is a component of the AGRN-LRP4 receptor complex that induces the phosphorylation and activation of MUSK. The activation of MUSK in myotubes induces the formation of NMJ by regulating different processes including the transcription of specific genes and the clustering of AChR in the postsynaptic membrane. Calcium ions are required for maximal AChR clustering. AGRN function in neurons is highly regulated by alternative splicing, glycan binding and proteolytic processing. Modulates calcium ion homeostasis in neurons, specifically by inducing an increase in cytoplasmic calcium ions. Functions differentially in the central nervous system (CNS) by inhibiting the alpha(3)-subtype of Na<sup>+</sup>/K<sup>+</sup>-ATPase and evoking depolarization at CNS synapses. This transmembrane agrin (TM-agrin) isoform, the predominate form in neurons of the brain, induces dendritic filopodia and synapse formation in mature hippocampal neurons in large part due to the attached glycosaminoglycan chains and the action of Rho-family GTPases., Isoform 2 and isoform 3: these isoforms lacking the 'z' insert (z0) are muscle-specific, have no AChR clustering ability and may be involved in nervous system endothelial cell differentiation., Agrin N-terminal 110 kDa subunit: involved in regulation of neurite outgrowth probably due to the presence of the glycosaminoglycan (GAG) side chains of heparan and chondroitin sulfate attached to the Ser/Thr- and Gly/Ser-rich regions. Also involved in modulation of growth factor signaling (By similarity). {ECO:0000250, ECO:0000269|PubMed:10402191, ECO:0000269|PubMed:11018052, ECO:0000269|PubMed:12796478, ECO:0000269|PubMed:17611272, ECO:0000269|PubMed:19303856, ECO:0000269|PubMed:21885656, ECO:0000269|PubMed:8653787}., Agrin C-terminal 22 kDa fragment: this released fragment is

## Target Details

	important for agrin signaling and to exert a maximal dendritic filopodia-inducing effect. All 'z' splice variants (z+) of this fragment also show an increase in the number of filopodia.
Molecular Weight:	105.1 kDa Including tag.
UniProt:	<a href="#">A2ASQ1</a>
Pathways:	<a href="#">Glycosaminoglycan Metabolic Process</a> , <a href="#">Regulation of Muscle Cell Differentiation</a> , <a href="#">Skeletal Muscle Fiber Development</a>

## 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 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

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)



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