

Datasheet for ABIN3114787

**Dystroglycan Protein (AA 30-653) (rho-1D4 tag)**[Go to Product page](#)**1** Image

## Overview

|                               |  |
|-------------------------------|--|
| Quantity:                     | 1 mg   |
| Target:                       | Dystroglycan (DAG1)  |
| Protein Characteristics:      | AA 30-653  |
| Origin:                       | Human  |
| Source:                       | Insect Cells   |
| Protein Type:                 | Recombinant  |
| Purification tag / Conjugate: | This Dystroglycan protein is labelled with rho-1D4 tag.              |
| Application:                  | Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys) |

## Product Details

|           |   |
|-----------|---|
| Sequence: | HWPSEPSEAV RDWENQLEAS MHSVLSDLHE AVPTVVGIPD GTAVVGRSFR VTIPTDLIAS<br>SGDIKVSAA GKEALPSWLH WDSQSHTLEG LPLDTDKGVH YISVSATRLG ANGSHIPQTS<br>SVFSIEVYPE DHSELQSVRT ASPDPGEVVS SACAADPEVT VLTVILDADL TKMTPKQRID<br>LLHRMRSFSE VELHNMKLVP VVNNRLFDMS AFMAGPGNAK KVVENGALLS WKLGC SLNQN<br>SVPDIHGVEA PAREGAMSAQ LGYPVVGWHI ANKKPPLPKR VRRQIHATPT PVTAIGPPTT<br>AIQEPPSRIV PTPTSPAIA PTETMAPPVR DPVPGKPTVT ITRGAIQT PTLGPIQPTR<br>VSEAGTTVPG QIRPTMTIPG YVEPTAVATP PTTTTKKPRV STPKPATPST DSTTTTTRRP<br>TKKPRTPRPV PRVTTKVSIT RLETASPPTR IRTTTSGVPR GGEPNQRP EL KNHIDRVDAW<br>VGTYFEVKIP SDTFYDHEDT TTDKLLKLT LK LREQQLVGEK SWVQFNSNSQ LMYGLPDSSH<br>VGKHEYFMHA TDKGGLSAVD AFEIHVHRRP QGDRAPARFK AKFVGDPALV LNDIHKKIAL<br>VKKLAFAGD RNCSTITLQN ITRG |
|-----------|---|

**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 DAG1 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.

#### Sterility:

0.22 µm filtered

#### Endotoxin Level:

Protein is endotoxin-free.

## Product Details

Grade: Crystallography grade

## Target Details

Target: Dystroglycan (DAG1)

Alternative Name: DAG1 ([DAG1 Products](#))

Background: The dystroglycan complex is involved in a number of processes including laminin and basement membrane assembly, sarcolemmal stability, cell survival, peripheral nerve myelination, nodal structure, cell migration, and epithelial polarization., Alpha-dystroglycan is an extracellular peripheral glycoprotein that acts as a receptor for both extracellular matrix proteins containing laminin-G domains. Receptor for laminin-2 (LAMA2) and agrin in peripheral nerve Schwann cells., Beta-dystroglycan is a transmembrane protein that plays important roles in connecting the extracellular matrix to the cytoskeleton. Acts as a cell adhesion receptor in both muscle and non-muscle tissues. Receptor for both DMD and UTRN and, through these interactions, scaffolds axin to the cytoskeleton. Also functions in cell adhesion-mediated signaling and implicated in cell polarity., (Microbial infection) Alpha-dystroglycan acts as a receptor for lassa virus and lymphocytic choriomeningitis virus glycoprotein and class C new-world arenaviruses (PubMed:16254364, PubMed:19324387, PubMed:17360738). Alpha-dystroglycan acts as a Schwann cell receptor for Mycobacterium leprae, the causative organism of leprosy, but only in the presence of the G-domain of LAMA2 (PubMed:9851927). {ECO:0000269|PubMed:16254364, ECO:0000269|PubMed:17360738, ECO:0000269|PubMed:19324387, ECO:0000269|PubMed:9851927}.

Molecular Weight: 69.0 kDa Including tag.

UniProt: [Q14118](#)

Pathways: [Maintenance of Protein Location](#), [Regulation of Carbohydrate Metabolic Process](#), [Protein targeting to Nucleus](#)

## 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: 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

## Application Details

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