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Datasheet for ABIN3118618

**CACNA2D2 Protein (AA 19-1150) (rho-1D4 tag)**

## Overview

|                               |  |
|-------------------------------|--|
| Quantity:                     | 1 mg   |
| Target:                       | CACNA2D2   |
| Protein Characteristics:      | AA 19-1150   |
| Origin:                       | Human  |
| Source:                       | Insect Cells   |
| Protein Type:                 | Recombinant  |
| Purification tag / Conjugate: | This CACNA2D2 protein is labelled with rho-1D4 tag.                  |
| Application:                  | ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS) |

## Product Details

|           |  |
|-----------|--|
| Sequence: | ARPWPGCGPH PGPGTRRPTS GPPRPLWLLL PLLPLLAAPG ASAYSFPQQH TMQHWARRLE<br>QEV DGVMRIF GG VQQLREIY KDN RNLF EVQ EN EPQKLVEK VAGDIESLLD RKVQALKRLA<br>DAAENFQKAH RWQDNIKEED IVYYDAKADA ELDDPESEDV ERGSKASTLR LDFIEDPNFK<br>NKNVNSYAAV QIPTDIYKGS TVILNELNWT EALENVFMEN RRQDPTLLWQ VFGSATGVTR<br>YYPATPWRAP KKIDLYDVRR RPWYIQGASS PKDMVIIDV SGVSGLTLK LMKTSVCEML<br>DTLSDDDYVN VASFNEKAQP VSCFTHLVQA NVRNKKVFEK AVQGMVAKGT TGYKAGFEYA<br>FDQLQNSNIT RANCNKMIMM FTDGGEDRVQ DVFEKYNWPN RTRVRVFTFSV GQHNYDVTPL<br>QWMACANKGY YFEIPSIGAI RINTQEYLDV LGRPMVLAGK EAKQVQWTVN YEDALGLGLV<br>VTGTLPVFNL TQDGPGEKKN QLILGVMGID VALNDIKRLT PNYTLGANGY VFAIDLNGYV<br>LLHPNLKPQT TNFREPVTLD FLDAELEDEN KEEIRRS MID GNKGHKQIRT LVKSLDERYI<br>DEVTRNYTWV PIRSTNYS LG LVLPPYSTFY LQANLSDQIL QVKLPISKLK DFEFLPSSF<br>ESEGHVFIAP REYCKDLNAS DNNTFLKNF IELMEKVTPD SKQCNNFLLH NLILDTGITQ |
|-----------|--|

QLVERVWRDQ DLNTYSLLAV FAATDGGITR VFPNKAEDW TENPEPFNAS FYRRSLDNHG  
YVFKPPHQDA LLRPLELEND TVGILVSTAV ELSLGRRTLRL PAVVGKLDL EAWAEKFKVL  
ASNRTHQDQP QKCGPNSHCE MDCEVNNEDL LCVLIDDGGF LVLSNQNHQW DQVGRFFSEV  
DANLMLALYN NSFYTRKESY DYQAACAPQP PGNLGAAPRG VFVPTVADFL NLAWWTAAAA  
WSLFQQLLYG LIYHSWFQAD PAEAEGLPET RESSCVMKQT QYYFGSVNAS YNAIIDCGNC  
SRLFHAQRLT NTNLLFVVAE KPLCSQCEAG RLLQKETHSD GPEQCELVQR PRYRRGPHIC  
FDYNATEDTS DCGRGASFPP SLGVLVSLQL LLLLGLPPRP QPQVLVHASR RL

**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 CACNA2D2 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

## Product Details

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:           | CACNA2D2   |
| Alternative Name: | CACNA2D2 ( <a href="#">CACNA2D2 Products</a> )   |
| Background:       | <p>The alpha-2/delta subunit of voltage-dependent calcium channels regulates calcium current density and activation/inactivation kinetics of the calcium channel. Acts as a regulatory subunit for P/Q-type calcium channel (CACNA1A), N-type (CACNA1B), L-type (CACNA1C OR CACNA1D) and possibly T-type (CACNA1G). Overexpression induces apoptosis.</p> <p>{ECO:0000269 PubMed:12555074, ECO:0000269 PubMed:15111129}.</p> |
| Molecular Weight: | 129.2 kDa Including tag.   |
| UniProt:          | <a href="#">Q9NY47</a>   |
| Pathways:         | <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:           | 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)   |