

## Datasheet for ABIN3137157 TRPV4 Protein (AA 1-871) (rho-1D4 tag)



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### 1 Image

#### Overview

Quantity:	1 mg
Target:	TRPV4
Protein Characteristics:	AA 1-871
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This TRPV4 protein is labelled with rho-1D4 tag.
Application:	Crystallization (Crys), ELISA, SDS-PAGE (SDS), Western Blotting (WB)

#### Product Details

Sequence:	<p>MADPGDGPRA APGEVAEPPG DESGTSGGEA FPLSSLANLF EGEEGSSSLP PVDASRPAGP</p> <p>GDGRPNLRMK FQGAFRKGVP NPIDLLESTL YESSVVP GPK KAPMDSLFDY GTYRHHPSDN</p> <p>KRWRRKVVEK QPQSPKAPAP QPPILKVFN RPILFDIVSR GSTADLDGLL SFLTHKKRL</p> <p>TDEEFREPST GKTCLPKALL NLSNGRNDTI PVLLDIAERT GNMREFINSP FRDIYYRGQT</p> <p>SLHIAIERRC KHYVELLVAQ GADVHAQARG RFFQPKDEGG YFYFGELPLS LAACTNQPHI</p> <p>VNYLTENPHK KADMRRQDSR GNTVLHALVA IADNTRENTK FVTKMYDLLL LKCSRLFPDS</p> <p>NLETVLNNDG LSPLMMAAKT GKIGVFQHII RREVTDEDTR HLSRKFKDWA YGPVYSSLYD</p> <p>LSSLDTCGEE VSVLEILVYN SKIENRHEML AVEPINELLR DKWRKFGAVS FYINVVSYLE</p> <p>AMVIFTLTAY YQPLEGTPPY PYRTTVDYLR LAGEVITLFT GVLFFFTSIK DLFTKKCPGV</p> <p>NSLFVDGSFQ LLYFIYSVLV VVSAALYLAG IEAYLAVMVF ALVLGWMNAL YFTRGLKLTG</p> <p>TYSIMIQKIL FKDLFRLLV YLLFMIGYAS ALVTLLNPCT NMKVCEDEDQS NCTVPTYPAC</p> <p>RDSETFSAFL LDLFKLTIGM GDLEMLSSAK YPVVFILLV TYIILTFVLL LNMLIALMGE</p>
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TVGQVSKESK HIWKLQWATT ILDIERSFPV FLRKAFRSGE MVTVGKSSDG TPDRRWCFRV  
DEVNWSHWNQ NLGIINEDPG KSEIYQYYGF SHTVGRLRRD RWSSVVPRVV ELNKNSSADE  
VVVPLDNLGN PNCDGHQQGY APKWRTDDAP L

**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 Trpv4 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 through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.
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## Product Details

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:	TRPV4
Alternative Name:	Trpv4 ( <a href="#">TRPV4 Products</a> )
Background:	<p>Non-selective calcium permeant cation channel involved in osmotic sensitivity and mechanosensitivity (PubMed:11094154). Activation by exposure to hypotonicity within the physiological range exhibits an outward rectification (PubMed:14691263, PubMed:16571723). Also activated by heat, low pH , citrate and phorbol esters (PubMed:14691263). Increase of intracellular Ca(2+) potentiates currents. Channel activity seems to be regulated by a calmodulin-dependent mechanism with a negative feedback mechanism (By similarity). Acts as a regulator of intracellular Ca(2+) in synoviocytes (By similarity). Plays an obligatory role as a molecular component in the nonselective cation channel activation induced by 4-alpha-phorbol 12,13-didecanoate and hypotonic stimulation in synoviocytes and also regulates production of IL-8 (By similarity). Together with PKD2, forms mechano- and thermosensitive channels in cilium (PubMed:18695040). Promotes cell-cell junction formation in skin keratinocytes and plays an important role in the formation and/or maintenance of functional intercellular barriers (PubMed:20413591). Negatively regulates expression of PPARGC1A, UCP1, oxidative metabolism and respiration in adipocytes (PubMed:23021218). Regulates expression of chemokines and cytokines related to proinflammatory pathway in adipocytes (PubMed:23021218). Together with AQP5, controls regulatory volume decrease in salivary epithelial cells (PubMed:16571723). {ECO:0000250 UniProtKB:Q9HBA0, ECO:0000269 PubMed:11094154, ECO:0000269 PubMed:14691263, ECO:0000269 PubMed:16571723, ECO:0000269 PubMed:18174177, ECO:0000269 PubMed:18695040, ECO:0000269 PubMed:20413591, ECO:0000269 PubMed:23021218}.</p>
Molecular Weight:	99.2 kDa Including tag.
UniProt:	<a href="#">Q9EPK8</a>
Pathways:	<a href="#">Hormone Transport, Cell-Cell Junction Organization</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)

## Images



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