Datasheet for ABIN3096097

# TRPM4 Protein (AA 1-683) (His tag)

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## 1 Image

## Overview

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|---|---|
| Quantity: | 1 mg |
| Target: | TRPM4 |
| Protein Characteristics: | AA 1-683 |
| Origin: | Human |
| Source: | Insect Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This TRPM4 protein is labelled with His tag. |
| Application: | SDS-PAGE (SDS), Western Blotting (WB), Crystallization (Crys), ELISA |

## Product Details

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| Sequence: | MVVPEKEQSW IPKIFKKKTC TTFIVDSTDP GGTLCQCGRP RTAHPAVAME DAFGAAVVTV WDSDAHTTEK PTDAYGELDF TGAGRKHSNF LRLSDRTDPA AVYSLVTRTW GFRAPNLVVS VLGGSGGPVL QTWLQDLLRR GLVRAAQSTG AWIVTGGLHT GIGRHVGVAV RDHQMASTGG TKVVAMGVAP WGVVRNRDTL INPKGSFPAR YRWRGDPEDG VQFPLDYNYS AFFLVDDGTH GCLGGENRFR LRLESYISQQ KTGVGGTGID IPVLLLLIDG DEKMLTRIEN ATQAQLPCLL VAGSGGAADC LAETLEDTLA PGSGGARQGE ARDRIRRFFP KGDLEVLQAQ VERIMTRKEL LTVYSSEDGS EEFETIVLKA LVKACGSSEA SAYLDELRLA VAWNRVDIAQ SELFRGDIQW RSFHLEASLM DALLNDRPEF VRLLISHGLS LGHFLTPMRL AQLYSAAPSN SLIRNLLDQA SHSAGTKAPA LKGGAAELRP PDVGHVLRML LGKMCAPRYP SGGAWDPHPG QGFGESMYLL SDKATSPLSL DAGLGQAPWS DLLLWALLLN RAQMAMYFWE MGSNAVSSAL GACLLLRVMA RLEPDAEEAA RRKDLAFKFE GMGVDLFGEC YRSSEVRAAR LLLRRCPLWG DATCLQLAMQ ADARAFFAQD GVQSLLTQKW WGD |

## Product Details

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| | **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.<br>• Human TRPM4 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>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.<br>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.<br>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).<br>When you order this made-to-order protein you will only pay upon receival 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.<br>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.<br>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: | Two step purification of proteins expressed in baculovirus infected SF9 insect cells:<br>1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.<br>2. 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. |
| Grade: | Crystallography grade |

## Target Details

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| Target: | TRPM4 |
| Alternative Name: | TRPM4 (TRPM4 Products) |
| Background: | Calcium-activated non selective (CAN) cation channel that mediates membrane depolarization. While it is activated by increase in intracellular Ca(2+), it is impermeable to it. Mediates transport of monovalent cations (Na(+) > K(+) > Cs(+) > Li(+)), leading to depolarize the membrane. It thereby plays a central role in cadiomyocytes, neurons from entorhinal cortex, dorsal root and vomeronasal neurons, endocrine pancreas cells, kidney epithelial cells, cochlea hair cells etc. Participates in T-cell activation by modulating Ca(2+) oscillations after T lymphocyte activation, which is required for NFAT-dependent IL2 production. Involved in myogenic constriction of cerebral arteries. Controls insulin secretion in pancreatic beta-cells. May also be involved in pacemaking or could cause irregular electrical activity under conditions of Ca(2+) overload. Affects T-helper 1 (Th1) and T-helper 2 (Th2) cell motility and cytokine production through differential regulation of calcium signaling and NFATC1 localization. Enhances cell proliferation through up-regulation of the beta-catenin signaling pathway. {ECO:0000269\|PubMed:12015988, ECO:0000269\|PubMed:12799367, ECO:0000269\|PubMed:15121803, ECO:0000269\|PubMed:15472118, ECO:0000269\|PubMed:15550671, ECO:0000269\|PubMed:16806463, ECO:0000269\|PubMed:20625999, ECO:0000269\|PubMed:20656926}. |
| Molecular Weight: | 75.4 kDa Including tag. |
| UniProt: | Q8TD43 |
| Pathways: | Regulation of Leukocyte Mediated Immunity, Production of Molecular Mediator of Immune Response |

## 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 gurantee 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

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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) |

## Images

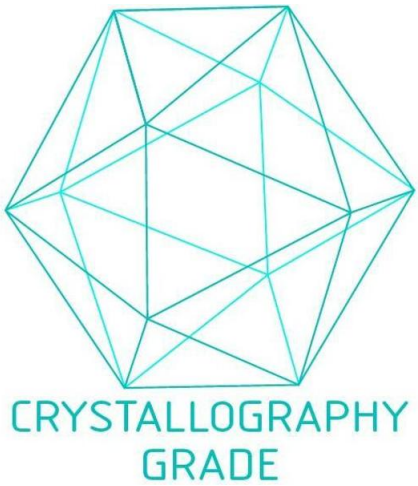


**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process