

Datasheet for ABIN7554571

## MICAL1 Protein (AA 1-1067) (His tag)



[Go to Product page](#)

### Overview

Quantity:	1 mg
Target:	MICAL1
Protein Characteristics:	AA 1-1067
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This MICAL1 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

### Product Details

Purpose:	Custom-made recombinat MICAL1 Protein expressed in mammalian cells.
Sequence:	<p>MASPTSTNPA HAHFESFLQA QLCQDVLSSF QELCGALGLE PGGGLPQYHK IKDQLNYWSA</p> <p>KSLWTKLDKR AGQPVYQQGR ACTSTKCLVV GAGPCGLRVA VELALLGARV VLVEKRTKFS</p> <p>RHNVHLHPWF TIHDLRALGA KKFYGRFCTG TLDHISIRQL QLLLLKVALL LGVEIHWGVT</p> <p>FTGLQPPPRK GSGWRAQLQP NPPAQLANYE FDLISAAGG KVPPEGFKVR EMRGKLAIGI</p> <p>TANFVNGRTV EETQVPEISG VARIYNQSFF QSLLKATGID LENIVYYKDD THYFVMTAKK</p> <p>QCLLRGLVLR QDWPDTNRLL GSANVPEAL QRFTRAAADF ATHGKLGKLE FAQDAHGQPD</p> <p>VSAFDFTSMM RAESSARVQE KHGARLLLGL VGDCLVEPFW PLGTGVARGF LAAFDAAWMV</p> <p>KRWAEGAESL EVLAERESLY QLLSQTSPEN MHRNVAQYGL DPATRYPNLN LRAVTPNQVR</p> <p>DLYDVLAKEP VQRNNDKTDG GMPATGSAGT QEELLRWCQE QTAGYPGVHV SDLSSSWADG</p> <p>LALCALVYRL QPGLLEPSEL QGLGALEATA WALKVAENEL GITPVVSAQA VVAGSDPLGL</p> <p>IAYLSHFHSA FKSMAHSPGP VSQASPGTSS AVLFLSKLQR TLQRSRAKEN AEDAGGKKLR</p>

LEMEAETPST EVPPDPEPGV PLTPPSQHQE AGAGDLCALC GEHLYVLERL CVNGHFFHRS  
CFRCHTCEAT LWPGGYEQHP GDGHFYCLQH LPQTDHKAEG SDRGPESPEL PTPSENSMPP  
GLSTPTASQE GAGVPDPDSQ PTRRQIRLSS PERQLSSLN LTPDPEMEPP PKPPRSCSAL  
ARHALESSFV GWGLPVQSPQ ALVAMEKEEK ESPFSSEEEE EDVPLDSDVE QALQTFAKTS  
GTMNNYPTWR RTLLRRAKEE EMKRFECAQT IQRRLNEIEA ALRELEAEGV KLELALRRQS  
SSPEQKKLW VGQLQLVLDK KNSLVAEEAE LMITVQELNL EEKQWQLDQE LRGYMNREEN  
LKTAADRQAE DQVLRKLVDL VNQRDALIRF QEERRLELA LGTGAQG **Sequence without tag.**

**The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**

Characteristics:

Key Benefits:

- Made to order protein - from design to production - by highly experienced protein experts.
- Protein expressed in mammalian cells and purified in one-step affinity chromatography
- The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.
- 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 try to ensure that you receive soluble protein.

If you are not interested in a full length protein, please contact us for individual protein fragments.

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.

Purity:

> 90 % as determined by Bis-Tris Page, Western Blot

Grade:

custom-made

Target Details

Target:

MICAL1

Alternative Name:

MICAL1 ([MICAL1 Products](#))

Background:

[F-actin]-monooxygenase MICAL1 (EC 1.14.13.225) (EC 1.6.3.1) (Molecule interacting with CasL protein 1) (MICAL-1) (NEDD9-interacting protein with calponin homology and LIM domains),FUNCTION: Monooxygenase that promotes depolymerization of F-actin by mediating

## Target Details

oxidation of specific methionine residues on actin to form methionine-sulfoxide, resulting in actin filament disassembly and preventing repolymerization (PubMed:29343822). In the absence of actin, it also functions as a NADPH oxidase producing H<sub>2</sub>O<sub>2</sub> (PubMed:21864500, PubMed:26845023, PubMed:29343822). Acts as a cytoskeletal regulator that connects NEDD9 to intermediate filaments. Also acts as a negative regulator of apoptosis via its interaction with STK38 and STK38L, acts by antagonizing STK38 and STK38L activation by MST1/STK4. Involved in regulation of lamina-specific connectivity in the nervous system such as the development of lamina-restricted hippocampal connections. Through redox regulation of the actin cytoskeleton controls the intracellular distribution of secretory vesicles containing L1/neurofascin/NgCAM family proteins in neurons, thereby regulating their cell surface levels (By similarity). May act as Rab effector protein and play a role in vesicle trafficking. Promotes endosomal tubule extension by associating with RAB8 (RAB8A or RAB8B), RAB10 and GRAF (GRAF1/ARHGAP26 or GRAF2/ARHGAP10) on the endosomal membrane which may connect GRAFs to Rabs, thereby participating in neosynthesized Rab8-Rab10-Rab11-dependent protein export (PubMed:32344433). {ECO:0000250|UniProtKB:Q8VDP3, ECO:0000269|PubMed:18305261, ECO:0000269|PubMed:21864500, ECO:0000269|PubMed:26845023, ECO:0000269|PubMed:28230050, ECO:0000269|PubMed:29343822, ECO:0000269|PubMed:32344433, ECO:0000305|PubMed:27552051}.

Molecular Weight: 117.9 kDa

UniProt: [Q8TDZ2](#)

## 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.

Restrictions: For Research Use only

## Handling

Format: Liquid

Buffer: The buffer composition is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Handling

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Storage Comment:	Store at -80°C.
Expiry Date:	12 months