

## MICAL2 Protein, Human, Recombinant (His)

## General Information

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|-----------------------|--|
| Synonyms:             | [F-actin]-monooxygenase MICAL2; KIAA0750; MICAL2; Molecule interacting with CasL protein 2 (MICAL-2); MICAL C-terminal-like protein (Mical-cL); MICAL2PV1; MICALCL; MICAL2PV2  |
| Protein Construction: | 1-495 aa   |
| Species:              | Human  |
| Expression Host:      | P. pastoris (Yeast)  |
| Accession:            | O94851   |
| Molecular Weight:     | 58.5 kDa (predicted)   |
| AA Sequence:          | MGNEDEKQAQAGQVFENFVQASTCKGTLQAFNILTRHLDLDPLDHRNFYSKLKSKVTTWKAKALWYKLDK<br>RGSKEYKRGKSCNTKCLIVGGGPCGLRTAIELAYLGAKVVVEKRDSESRNNVLHLWPFTIHDRLGLGAKKF<br>YGKFCAGSIDHISIRQLQLILFKVALMLGVEIHVNVEFVKVLEPPEDQENQKIGWRAEFLPTDHSLSSEFEFDVIIG<br>ADGRRNTLEGFRKFRGKLAIAITANFINRNSTAEAKVEEISGVAFIFNQKFFQDLKEETGIDLENIVVYKDCSTH<br>YFVMTAKKQSLLDKGVINDYIDTEMLLCAENVNQDNLLSYAREAADFATNYQLPSLDFAMNHYGQPDVAM<br>FDFTCMYASENAALVRERQAHQLLVALVGDSLLEPFWPMGTGCARGFLAAFDTAWMVKSWNQGTPLLELL<br>AERESLYRLLPQTPPENINKNFEQYTLDPGTRYPNLNSHCVRPHQVKHLYITKELEH |

## QC Testing

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|----------------------|---|
| Biological Activity: | Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first. |
| Purity:              | > 90% as determined by SDS-PAGE.  |
| Endotoxin:           | < 1.0 EU/μg of the protein as determined by the LAL method.   |
| Formulation:         | Tris-based buffer, 50% glycerol   |

## Preparation and Storage

## Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

## Stability &amp; Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

## Shipping:

In general, Lyophilized powders are shipping with blue ice. Solutions are shipping with dry ice.

## Protein Background

Nuclear monooxygenase that promotes depolymerization of F-actin by mediating oxidation of specific methionine residues on actin to form methionine-sulfoxide, resulting in actin filament disassembly and preventing repolymerization. In the absence of actin, it also functions as a NADPH oxidase producing  $H_2O_2$ . Acts as a key regulator of the SRF signaling pathway elicited by nerve growth factor and serum: mediates oxidation and subsequent depolymerization of nuclear actin, leading to increase MKL1/MRTF-A presence in the nucleus and promote SRF:MKL1/MRTF-A-dependent gene transcription. Does not activate SRF:MKL1/MRTF-A through RhoA.

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