

MKL1 Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP18838c**Specification**

MKL1 Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [Q969V6](#)**MKL1 Antibody (Center) Blocking Peptide - Additional Information**

Gene ID 57591

Other Names

MKL/myocardin-like protein 1, Megakaryoblastic leukemia 1 protein, Megakaryocytic acute leukemia protein, Myocardin-related transcription factor A, MRTF-A, MKL1, KIAA1438, MAL

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MKL1 Antibody (Center) Blocking Peptide - Protein InformationName MRTFA ([HGNC:14334](#))**Function**

Transcription coactivator that associates with the serum response factor (SRF) transcription factor to control expression of genes regulating the cytoskeleton during development, morphogenesis and cell migration (PubMed:26224645). The SRF-MRTFA complex activity responds to Rho GTPase-induced changes in cellular globular actin (G-actin) concentration, thereby coupling cytoskeletal gene expression to cytoskeletal dynamics. MRTFA binds G-actin via its RPEL repeats, regulating activity of the MRTFA-SRF complex. Activity is also regulated by filamentous actin (F-actin) in the nucleus.

Cellular Location

Cytoplasm. Nucleus Note=Subcellular location is tightly regulated by actin both in cytoplasm and nucleus: high levels of G-actin in the nucleus observed during serum deprivation lead to low levels of nuclear MRTFA, while reduced levels of nuclear G-actin result in accumulation of MRTFA in the nucleus (By similarity). G-actin-binding in the cytoplasm inhibits nuclear import by masking the nuclear localization signal (NLS) (By similarity). In contrast, binding to nuclear globular actin (G-actin) promotes nuclear export to the cytoplasm (By similarity). Nuclear localization is regulated by MICAL2, which mediates depolymerization of nuclear actin, which decreases nuclear

G-actin pool, thereby promoting retention of MRTFA in the nucleus and subsequent formation of an active complex with SRF (PubMed:24440334). {ECO:0000250|UniProtKB:Q8K4J6, ECO:0000269|PubMed:24440334}

Tissue Location

Ubiquitously expressed, has been detected in lung, placenta, small intestine, liver, kidney, spleen, thymus, colon, muscle, heart and brain (PubMed:11344311). Expressed in peripheral blood mononuclear cells (at protein level) (PubMed:26224645)

MKL1 Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

MKL1 Antibody (Center) Blocking Peptide - Images**MKL1 Antibody (Center) Blocking Peptide - Background**

The protein encoded by this gene interacts with the transcription factor myocardin, a key regulator of smooth muscle cell differentiation. The encoded protein is predominantly nuclear and may help transduce signals from the cytoskeleton to the nucleus. This gene is involved in a specific translocation event that creates a fusion of this gene and the RNA-binding motif protein-15 gene. This translocation has been associated with acute megakaryocytic leukemia.

MKL1 Antibody (Center) Blocking Peptide - References

Gilles, L., et al. Blood 114(19):4221-4232(2009) Hinohara, K., et al. Hum. Genet. 126(4):539-547(2009) Estrada, K., et al. Hum. Mol. Genet. 18(18):3516-3524(2009) Brandt, D.T., et al. Nat. Cell Biol. 11(5):557-568(2009) Medjkane, S., et al. Nat. Cell Biol. 11(3):257-268(2009)