

MRTF-A Polyclonal Antibody

Catalog # AP71078

Specification

MRTF-A Polyclonal Antibody - Product Information

Application Primary Accession Reactivity Host Clonality WB, IHC-P <u>0969V6</u> Human, Mouse Rabbit Polyclonal

MRTF-A Polyclonal Antibody - Additional Information

Gene ID 57591

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

Dilution WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/5000. Not yet tested in other applications. IHC-P~~N/A

Format Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions -20°C

MRTF-A Polyclonal Antibody - Protein Information

Name 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). Nuclear import is mediated by importins KPNA4 and KPNB1 (By similarity) {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)

MRTF-A Polyclonal Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

MRTF-A Polyclonal Antibody - Images







MRTF-A Polyclonal Antibody - Background

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. 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.