

MAPKAP1 Antibody
Catalog # ASC10516**Specification**

MAPKAP1 Antibody - Product Information

Application	WB, IHC, IF
Primary Accession	Q9BPZ7
Other Accession	NP_001006618 , 56788407
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	MAPKAP1 antibody can be used for detection of MAPKAP1 by Western blot at 0.5 - 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.

MAPKAP1 Antibody - Additional InformationGene ID **79109****Other Names**

MAPKAP1 Antibody: MIP1, SIN1, JC310, SIN1b, SIN1g, MIP1, Target of rapamycin complex 2 subunit MAPKAP1, Mitogen-activated protein kinase 2-associated protein 1, TORC2 subunit MAPKAP1, mitogen-activated protein kinase associated protein 1

Target/Specificity

MAPKAP1;

Reconstitution & Storage

MAPKAP1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions

MAPKAP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

MAPKAP1 Antibody - Protein Information**Name** MAPKAP1**Synonyms** MIP1, SIN1**Function**

Subunit of mTORC2, which regulates cell growth and survival in response to hormonal signals. mTORC2 is activated by growth factors, but, in contrast to mTORC1, seems to be nutrient-insensitive. mTORC2 seems to function upstream of Rho GTPases to regulate the actin

cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors. mTORC2 promotes the serum-induced formation of stress-fibers or F-actin. mTORC2 plays a critical role in AKT1 'Ser-473' phosphorylation, which may facilitate the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDK1 which is a prerequisite for full activation. mTORC2 regulates the phosphorylation of SGK1 at 'Ser-422'. mTORC2 also modulates the phosphorylation of PRKCA on 'Ser-657'. Within mTORC2, MAPKAP1 is required for complex formation and mTORC2 kinase activity. MAPKAP1 inhibits MAP3K2 by preventing its dimerization and autophosphorylation. Inhibits HRAS and KRAS signaling. Enhances osmotic stress-induced phosphorylation of ATF2 and ATF2-mediated transcription. Involved in ciliogenesis, regulates cilia length through its interaction with CCDC28B independently of mTORC2 complex.

Cellular Location

Cell membrane; Peripheral membrane protein. Cytoplasmic vesicle. Nucleus

Tissue Location

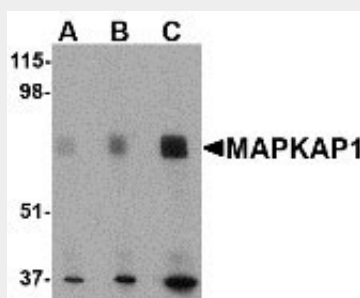
Ubiquitously expressed, with highest levels in heart and skeletal muscle.

MAPKAP1 Antibody - Protocols

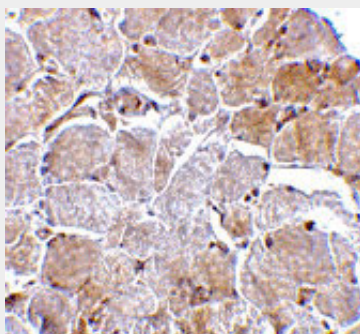
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

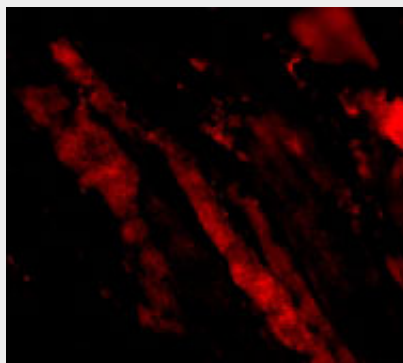
MAPKAP1 Antibody - Images



Western blot analysis of MAPKAP1 in human skeletal muscle tissue lysate with MAPKAP1 antibody at (A) 0.5, (B) 1 and (C) 2 µg/mL.



Immunohistochemistry of MAPKAP1 in human skeletal muscle tissue with MAPKAP1 antibody at 2.5 µg/mL.



Immunofluorescence of MAPKAP1 in Human Skeletal Muscle cells with MAPKAP1 antibody at 20 µg/mL.

MAPKAP1 Antibody - Background

MAPKAP1 Antibody: MAPKAP1 was initially identified as the human homolog of *S. pombe* SIN1. Recent evidence has shown that it is identical to Mip1, a protein that interacts with MEKK2, a member of the mitogen-activated protein kinase (MAPK) intracellular signaling network. MAPKAP1 is thought to prevent MEKK2 activation and dimerization by forming a complex with the inactive and non-phosphorylated MEKK2, thereby blocking the JNK1/2, ERK1/2, p38 and ERK5 MAPKs. MAPKAP1 has also been shown to play a role in the TOR signaling process, a pathway that is involved in controlling cell growth and proliferation in response to environmental cues such as nutrients, growth factors and hormones. Experiments showed that MAPKAP1 helped to maintain the TOR/ric1/2 complex integrity but not the TOR/RAPTOR complex, which allowed specific phosphorylation of Akt, a kinase that is believed to couple the growth factor-PI3K signaling pathway to the nutrient-regulated TOR signaling pathway. Multiple alternatively spliced isoforms of MAPKAP1 have been identified.

MAPKAP1 Antibody - References

Schroder W, Cloonan N, Bushell G, et al. Alternative polyadenylation and splicing of mRNAs transcribed from the human Sin1 gene. *Gene*2004; 339:17-23.
Cheng J, Zhang D, Kim K, et al. Mip1, an MEKK2-interacting protein, controls MEKK2 dimerization and activation. *Mol. Cell. Biol.*2005; 25:5955-64.
Jacinto E, Facchinetti V, Liu D, et al. SIN1/MIP1 maintains rictor-mTOR complex integrity and regulates Akt phosphorylation and substrate specificity. *Cell*2006; 127:125-37.
Wullschlegel S, Loewith R and Hall MN. TOR signaling in growth and metabolism. *Cell*2006; 124:471-84.