10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.622.0609

MAPK3 Antibody
Mouse Monoclonal Antibody (Mab)
Catalog # AM1943b

Specification

MAPK3 Antibody - Product Information

Application	**WB,E**
Primary Accession	P27361
Other Accession	NP_001035145.1
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1,k**

MAPK3 Antibody - Additional Information

Gene ID 5595

Other Names
Mitogen-activated protein kinase 3, MAP kinase 3, MAPK 3, ERT2, Extracellular signal-regulated kinase 1, ERK-1, Insulin-stimulated MAP2 kinase, MAP kinase isoform p44, p44-MAPK, Microtubule-associated protein 2 kinase, p44-ERK1, MAPK3, ERK1, PRKM3

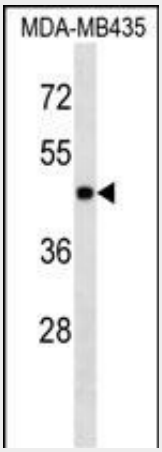
Target/Specificity
This MAPK3 monoclonal antibody is generated from mouse immunized with MAPK3 recombinant protein.

Dilution
WB~~1:120~1000

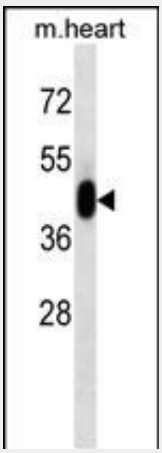
Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
MAPK3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.



MAPK3 Antibody (Cat. #AM1943b) western blot analysis in MDA-MB435 cell line lysates (35µg/lane).This demonstrates the MAPK3 antibody detected the MAPK3 protein (arrow).



MAPK3 Antibody (Cat. #AM1943b) western blot analysis in mouse heart tissue lysates (35µg/lane).This demonstrates the MAPK3 antibody detected the MAPK3 protein (arrow).

MAPK3 Antibody - Background

The protein encoded by this gene is a member of the MAP
kinase family. MAP kinases, also known as extracellular
signal-regulated kinases (ERKs), act in a

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.622.0609

MAPK3 Antibody - Protein Information

Name MAPK3

Synonyms ERK1, PRKM3

Function
Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK1/ERK2 and MAPK3/ERK1 are the 2 MAPKs which play an important role in the MAPK/ERK cascade. They participate also in a signaling cascade initiated by activated KIT and KITLG/SCF. Depending on the cellular context, the MAPK/ERK cascade mediates diverse biological functions such as cell growth, adhesion, survival and differentiation through the regulation of transcription, translation, cytoskeletal rearrangements. The MAPK/ERK cascade plays also a role in initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors. About 160 substrates have already been discovered for ERKs. Many of these substrates are localized in the nucleus, and seem to participate in the regulation of transcription upon stimulation. However, other substrates are found in the cytosol as well as in other cellular organelles, and those are responsible for processes such as translation, mitosis and apoptosis. Moreover, the MAPK/ERK cascade is also involved in the regulation of the endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC); as well as in the fragmentation of the Golgi apparatus during mitosis. The substrates include transcription factors (such as ATF2, BCL6, ELK1, ERF, FOS, HSF4 or SPZ1), cytoskeletal elements (such as CANX, CTTN, GJA1, MAP2, MAPT, PXN, SORBS3 or STMN1), regulators of apoptosis (such as BAD, BTG2, CASP9, DAPK1, IER3, MCL1 or PPARG), regulators of translation (such as EIF4EBP1) and a variety of other signaling-related molecules (like ARHGEF2, FRS2 or GRB10). Protein kinases (such as RAF1, RPS6KA1/RSK1, RPS6KA3/RSK2, RPS6KA2/RSK3, RPS6KA6/RSK4, SYK, MKNK1/MNK1, MKNK2/MNK2, RPS6KA5/MSK1, RPS6KA4/MSK2, MAPKAPK3 or MAPKAPK5) and phosphatases (such as signaling cascade that
regulates various cellular processes such as proliferation,
differentiation, and cell cycle progression in response to a
variety of extracellular signals. This kinase is activated by
upstream kinases, resulting in its translocation to the nucleus
where it phosphorylates nuclear targets. Alternatively spliced
transcript variants encoding different protein isoforms have been
described.

MAPK3 Antibody - References

Yotsumoto, F., et al. Cancer Sci. 101(11):2351-2360(2010)
Arana-Argaez, V.E., et al. J. Biol. Chem. 285(43):32824-32833(2010)
Collier, M.E., et al. Arterioscler. Thromb. Vasc. Biol. 30(9):1810-1817(2010)
Lujan, B., et al. Br. J. Cancer 103(4):510-516(2010)
Meng, S., et al. J Mol Cell Biol 2(4):223-230(2010)

DUSP1, DUSP4, DUSP6 or DUSP16) are other substrates which enable the propagation the MAPK/ERK signal to additional cytosolic and nuclear targets, thereby extending the specificity of the cascade.

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:P21708}. Nucleus. Membrane, caveola {ECO:0000250|UniProtKB:P21708}. Cell junction, focal adhesion {ECO:0000250|UniProtKB:Q63844} Note=Autophosphorylation at Thr-207 promotes nuclear localization (PubMed:19060905). PEA15-binding redirects the biological outcome of MAPK3 kinase-signaling by sequestering MAPK3 into the cytoplasm (By similarity). {ECO:0000250|UniProtKB:Q63844, ECO:0000269|PubMed:19060905}

MAPK3 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
- Cell Culture

MAPK3 Antibody - Citations

- Proteomic analysis of the effect of extracellular calcium ions on human mesenchymal stem cells: implications for bone tissue engineering.