



MEF-2 Rabbit mAb

Catalog No	YP-rAb-16884
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IF,ELISA
Gene Name	MEF2A
Protein Name	Myocyte-specific enhancer factor 2A
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	WB 1:2000-1:10000; IF 1:200-1:1000; ELISA 1:5000-1:20000;
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15° C to -25° C/1 year(Do not lower than -25° C)
Synonyms	MEF2A ; MEF2 ; Myocyte-specific enhancer factor 2A ; Serum response factor-like protein 1
Observed Band	65kD
Calculated Molecular Weight	55kD
Cell Pathway	Nucleus .
Tissue Specificity	Isoform MEF2 and isoform MEFA are expressed only in skeletal and cardiac muscle and in the brain. Isoform RSRFC4 and isoform RSRFC9 are expressed in all tissues examined.
Function	Disease:Defects in MEF2A might be a cause of autosomal dominant coronary artery disease 1 with myocardial infarction (ADCAD1) [MIM:608320].Function:Transcriptional activator which binds specifically to the MEF2 element, 5'-YTA[AT](4)TAR-3', found in numerous muscle-specific genes. Also involved in the activation of numerous growth factor- and stress-induced genes. Mediates cellular functions not only in skeletal and cardiac muscle development, but also in neuronal differentiation and survival. Plays diverse roles in the control of cell growth, survival and apoptosis via p38 MAPK signaling in muscle-specific and/or growth factor-related transcription. In cerebellar granule neurons, phosphorylated and sumoylated MEF2A represses transcription of NUR77 promoting synaptic differentiation.,PTM:Acetylation on Lys-403 activates

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transcriptional activity. Acetylated by p300 on several sites in differentiating myocytes. Acetylation on Lys-4 increases DNA binding and transactivation (By similarity). Hyperacetylation by p300 leads to enhanced cardiac myocyte growth and heart failure. PTM: Constitutive phosphorylation on Ser-408 promotes Lys-403 sumoylation thus preventing acetylation at this site. Dephosphorylation on Ser-408 by PPP3CA upon neuron depolarization promotes a switch from sumoylation to acetylation on residue Lys-403 leading to inhibition of dendrite claw differentiation. Phosphorylation on Thr-312 and Thr-319 are the main sites involved in p38 MAPK signaling and activate transcription. Phosphorylated on these sites by MAPK14/p38alpha and MAPK11/p38beta, but not by MAPK13/p38delta nor by MAPK12/p38gamma. Phosphorylation on Ser-408 by CDK5 induced by neurotoxicity inhibits MEF2A transcriptional activation leading to apoptosis of cortical neurons. Phosphorylation on Thr-312, Thr-319 and Ser-355 can be induced by EGF. PTM: Proteolytically cleaved in cerebellar granule neurons on several sites by caspase 3 and caspase 7 following neurotoxicity. Preferentially cleaves the CDK5-mediated hyperphosphorylated form which leads to neuron apoptosis and transcriptional inactivation. PTM: Sumoylation on Lys-403 is enhanced by PIAS1 and represses transcriptional activity. Phosphorylation on Ser-408 is required for sumoylation. Has no effect on nuclear location nor on DNA binding. Sumoylated by SUMO1 and, to a lesser extent by SUMO2 and SUMO3. PIASx facilitates sumoylation in postsynaptic dendrites in the cerebellar cortex and promotes their morphogenesis. similarity: Belongs to the MEF2 family. similarity: Contains 1 MADS-box domain. similarity: Contains 1 Mef2-type DNA-binding domain. subunit: Binds DNA as a homo- or heterodimer. Dimerizes with MEF2D. Interacts with HDAC7 (By similarity). Interacts with PIAS1; the interaction enhances sumoylation. Interacts with HDAC4, HDAC9 and SLC2A4RG. Interacts (via the N-terminal) with MAPK7; the interaction results in the phosphorylation and transcriptional activity of MEF2A. tissue specificity: Isoform MEF2 and isoform MEFA are expressed only in skeletal and cardiac muscle and in the brain while isoform RSRFC4 and isoform RSRFC9 are expressed in all tissues examined.

Background

The protein encoded by this gene is a DNA-binding transcription factor that activates many muscle-specific, growth factor-induced, and stress-induced genes. The encoded protein can act as a homodimer or as a heterodimer and is involved in several cellular processes, including muscle development, neuronal differentiation, cell growth control, and apoptosis. Defects in this gene could be a cause of autosomal dominant coronary artery disease 1 with myocardial infarction (ADCAD1). Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2010],

matters needing attention

Avoid repeated freezing and thawing!

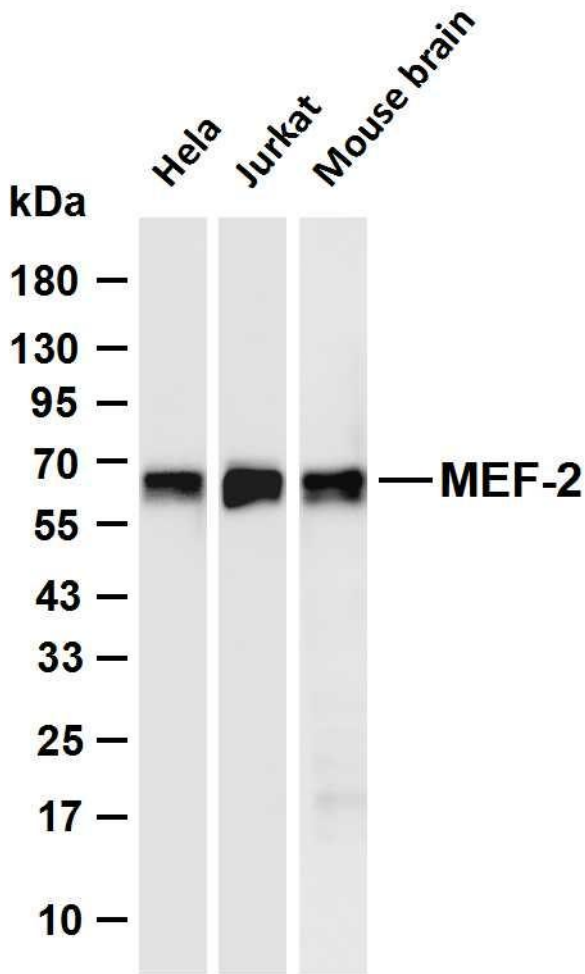
Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.





Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-MEF-2 antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: HeLa Lane 2: Jurkat Lane 3: Mouse brain Predicted band size: 55kDa Observed band size: 65kDa



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