Best Tools for immunology Research

MEF-2A/C rabbit pAb

Catalog No :	YT7830
Reactivity :	Human;Mouse;Rat
Applications :	WB;ELISA
Target :	MEF-2
Fields :	>>cGMP-PKG signaling pathway;>>Apelin signaling pathway;>>Parathyroid hormone synthesis, secretion and action;>>Fluid shear stress and atherosclerosis
Gene Name :	MEF2A MEF2
Protein Name :	MEF-2A/C
Human Gene Id :	4205
Human Swiss Prot No :	Q02078/Q06413
Mouse Gene Id :	17258
Mouse Swiss Prot No :	Q60929
Rat Gene Id :	309957
Rat Swiss Prot No :	Q2MJT0
Immunogen :	Synthesized peptide derived from human MEF-2A/C
Specificity :	This antibody detects endogenous levels of Human,Mouse,Rat MEF-2A/C
Formulation :	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source :	Polyclonal, Rabbit,IgG
Dilution :	WB 1:1000-2000 ELISA 1:5000-20000

Purification : The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.

Concentration : 1 mg/ml

Storage Stability : -15°C to -25°C/1 year(Do not lower than -25°C)

Molecularweight : 56kD

Background : 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 transcriptional activity. Acetylated by p300 on several sites in diffentiating 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 transciptional 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.,

Function : transcription, regulation of transcription, DNA-dependent, apoptosis, muscle organ development, cell death,programmed cell death, death, regulation of transcription, regulation of RNA metabolic process,

Subcellular Location : Nucleus .

Expression : 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.

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