MEF-2 (Phospho Thr312) Rabbit pAb

CatalogNo: YP0163 Orthogonal Validated Comparable Abs

Key Features

Host Species
- Rabbit

Reactivity
- Human,Mouse,Rat

Applications
- WB,IHC,IF,IP,ELISA

MW
- 55kD (Calculated)

Isotype
- IgG

Storage

Storage*	-15°C to -25°C/1 year (Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

WB 1:500-1:2000
IHC 1:100-1:300
IP 2-5 ug/mg lysate
ELISA 1:20000
IF 1:50-200

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	The antiserum was produced against synthesized peptide derived from human MEF2A around the phosphorylation site of Thr312. AA range:279-328

Specificity	Phospho-MEF-2 (T312) Polyclonal Antibody detects endogenous levels of MEF-2 protein only when phosphorylated at T312.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):LAtPV

Target Information

Gene name	MEF2A
Protein Name	Myocyte-specific enhancer factor 2A

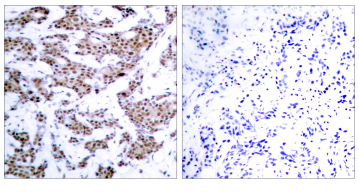
Organism	Gene ID	UniProt ID
Human	4205;	Q02078;
Mouse	17258;	Q60929;
Rat	309957;	Q2MJT0;

Cellular Localization	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.

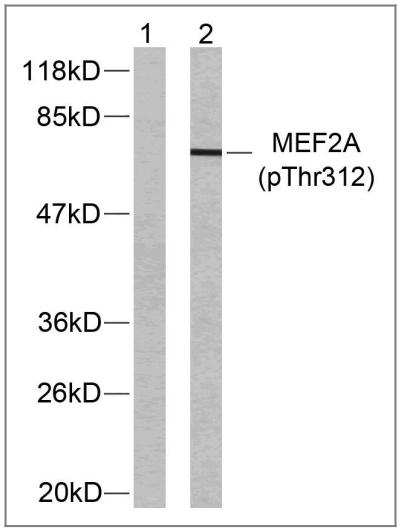
Function

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 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. ,

Validation Data



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma, using MEF2A (Phospho-Thr312) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from NIH/3T3 cells treated with PMA, using MEF2A (Phospho-Thr312) Antibody. The lane on the left is blocked with the phospho peptide.

Contact information

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