ELK Biotechnology

# MEF-2A/C rabbit pAb

## Cat No.:ES20274

**For research use only**

### Overview

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| **Product Name** | MEF-2A/C rabbit pAb |
| **Host species** | Rabbit |
| **Applications** | WB; ELISA |
| **Species Cross-Reactivity** | Human;Mouse;Rat |
| **Recommended dilutions** | WB 1:1000-2000 ELISA 1:5000-20000 |
| **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. |
| **Storage** | Store at -20℃. Avoid repeated freeze-thaw cycles. |
| **Protein Name** | MEF-2A/C |
| **Gene Name** | MEF2A MEF2 |
| **Cellular localization** | Nucleus . |
| **Purification** | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. |
| **Clonality** | Polyclonal |
| **Concentration** | 1 mg/ml |
| **Observed band** | |
| **Human Gene ID** | 4205 |
| **Human Swiss-Prot Number** | Q02078/Q06413 |
| **Alternative Names** | Myocyte-specific enhancer factor 2A (Serum response factor-like protein 1) |
| **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.,