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[Marker Primary Antibody]

Rabbit Anti-phospho-MEF2d (Ser444)/HRP Conjugated antibody

Catalog Number: SL5502R-HRP

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-phospho-MEF2D(Ser444)/HRP
Immunogen:	KLH conjugated Synthesised phosphopeptide derived from human MEF2D around the phosphorylation site of Ser444
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	WB=1:500-2000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse(predicted:Rat,Pig,Cow,Horse,Rabbit)
Background:	background: MEF2D is a member of the myocyte-specific enhancer factor 2 (MEF2) family of transcription factors. Members of this family are involved in control of muscle and neuronal cell differentiation and development, and are regulated by class II histone deacetylases. Fusions of the encoded protein with Deleted in Azoospermia-Associated Protein 1 (DAZAP1) due to a translocation have been found in an acute lymphoblastic leukemia cell line, suggesting a role in leukemogenesis. The encoded protein may also be involved in Parkinson disease and myotonic dystrophy. Alternative splicing results in multiple transcript variants. **Function:** Transcriptional activator which binds specifically to the MEF2 element, 5'-YTA[AT](4)TAR-3', found in numerous muscle-specific, 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

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	apoptosis via p38 MAPK signaling in muscle-specific and/or growth factor-related transcription. Plays a critical role in the regulation of neuronal apoptosis (By similarity). **Subunit:** Forms a complex with class II HDACs in undifferentiating cells. On myogenic differentiation, HDACs are released into the cytoplasm allowing MEF2s to interact with other proteins for activation. Interacts with HDAC4 (in undifferentiating cells); the interaction translocates MEF2D to nuclear dots. Forms a heterodimer with MEF2A. **Subcellular Location:** Nucleus. Note=Translocated by HDAC4 to nuclear dots. **Post-translational modifications:** Phosphorylated on Ser-444 by CDK5 is required for Lys-439 sumoylation and inhibits transcriptional activity. In neurons, enhanced CDK5 activity induced by neurotoxins promotes caspase 3-mediated cleavage leading to neuron apoptosis. Phosphorylation on Ser-180 can be enhanced by EGF. Phosphorylated and activated by CaMK4. Acetylated on Lys-439 by CREBBP. Deacetylated by SIRT1. Sumoylated on Lys-439 with SUMO2 but not SUMO1; which inhibits transcriptional activity and myogenic activity. Desumoylated by SENP3. Proteolytically cleaved in cerebellar granule neurons on several sites by caspase 7 following neurotoxicity. Preferentially cleaves the CDK5-mediated hyperphosphorylated form which leads to neuron apoptosis and transcriptional inactivation (By similarity). **Similarity:** Belongs to the MEF2 family. Contains 1 MADS-box domain. Contains 1 Mef2-type DNA-binding domain. **Database links:** UniProtKB/Swiss-Prot: Q14814.1 Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. MEF2D and other members of its family play important roles in cell survival and differentiation.