Product datasheet

Anti-MEF2C (phospho S396) antibody ab78888

Overview

Product name: Anti-MEF2C (phospho S396) antibody
Description: Rabbit polyclonal to MEF2C (phospho S396)
Host species: Rabbit
Specificity: Detects endogenous levels of MEF2C only when phosphorylated at serine 396.
Tested applications: Suitable for: WB, IHC-P, ELISA
Species reactivity: Reacts with: Mouse, Human
Immunogen: Synthetic phosphopeptide derived from Human MEF2C around the phosphorylation site of serine 396 (P-V-S^396-P-P)
Positive control: Purchase matching WB positive control: Recombinant Human MEF2C protein

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer: pH: 7.40
Preservative: 0.02% Sodium azide
 Constituents: 50% Glycerol, 0.87% Sodium chloride, PBS
Without Mg2+ and Ca2+
Purity: Immunogen affinity purified
Purification notes: Purified from rabbit antiserum by affinity chromatography, using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality: Polyclonal
Isotype: IgG

Applications
Function

Transcription activator which binds specifically to the MEF2 element present in the regulatory regions of many muscle-specific genes. Controls cardiac morphogenesis and myogenesis, and is also involved in vascular development. Plays an essential role in hippocampal-dependent learning and memory by suppressing the number of excitatory synapses and thus regulating basal and evoked synaptic transmission. Crucial for normal neuronal development, distribution, and electrical activity in the neocortex. Necessary for proper development of megakaryocytes and platelets and for bone marrow B lymphopoiesis. Required for B-cell survival and proliferation in response to BCR stimulation, efficient IgG1 antibody responses to T-cell-dependent antigens and for normal induction of germinal center B cells. May also be involved in neurogenesis and in the development of cortical architecture (By similarity). Isoform 3 and isoform 4, which lack the repressor domain, are more active than isoform 1 and isoform 2.

Tissue specificity

Expressed in brain and skeletal muscle.

Involvement in disease

Defects in MEF2C are the cause of mental retardation-stereotypic movements-epilepsy and/or cerebral malformations (MRSME) [MIM:613443]. It is a disorder characterized by severe mental retardation, absent speech, hypotonia, poor eye contact and stereotypic movements. Dysmorphic features include high broad forehead with variable small chin, short nose with anteverted nares, large open mouth, upslanted palpebral fissures and prominent eyebrows. Some patients have seizures.

Sequence similarities

Belongs to the MEF2 family. Contains 1 MADS-box domain. Contains 1 Mef2-type DNA-binding domain.

Developmental stage

Expression is highest during the early stages of postnatal development, at later stages levels greatly decrease.

Domain

The beta domain, missing in a number of isoforms, is required for enhancement of transcriptional activity.

Post-translational modifications

Phosphorylation on Ser-59 enhances DNA binding activity (By similarity). Phosphorylation on Ser-396 is required for Lys-391 sumoylation and inhibits transcriptional activity. Acetylated by p300 on several sites in differentiating myocytes. Acetylation on Lys-4 increases DNA binding and transactivation. Sumoylated on Lys-391 by SUMO2 but not by SUMO1 represses transcriptional activity. Proteolytically cleaved in cerebellar granule neurons, probably by caspase 7, following neurotoxicity. Preferentially cleaves the CDK5-mediated hyperphosphorylated form which leads to neuron apoptosis and transcriptional inactivation.

Cellular localization

Nucleus.
Immunohistochemistry analysis of paraffin-embedded Human brain tissue using ab78888 at 1/50 dilution in the absence or presence of the immunizing phosphopeptide.

**Images**

**Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEF2C (phospho S396) antibody (ab78888)**

**Western blot - Anti-MEF2C (phospho S396) antibody (ab78888)**

**All lanes**: Anti-MEF2C (phospho S396) antibody (ab78888) at 1/500 dilution

**Lane 1**: Extracts from 24 hours starved 3T3 cells with immunizing phosphopeptide at 5 µg

**Lane 2**: Extracts from 24 hours starved 3T3 cells

Lysates/proteins at 20 µg per lane.

**Predicted band size**: 51 kDa

**Observed band size**: 51 kDa

**Please note**: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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