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CSRP3 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17004c

Product Information

Application	WB, E
Primary Accession	P50461
Other Accession	NP_001121128.1, NP_003467.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB36750
Calculated MW	20969
Antigen Region	91-119

Additional Information

Gene ID	8048
Other Names	Cysteine and glycine-rich protein 3, Cardiac LIM protein, Cysteine-rich protein 3, CRP3, LIM domain protein, cardiac, Muscle LIM protein, CSRP3, CLP, MLP
Target/Specificity	This CSRP3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 91-119 amino acids from the Central region of human CSRP3.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CSRP3 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CSRP3
Synonyms	CLP, MLP
Function	Positive regulator of myogenesis. Acts as a cofactor for myogenic bHLH

	transcription factors such as MYOD1, and probably MYOG and MYF6. Enhances the DNA-binding activity of the MYOD1:TCF3 isoform E47 complex and may promote formation of a functional MYOD1:TCF3 isoform E47:MEF2A complex involved in myogenesis (By similarity). Plays a crucial and specific role in the organization of cytosolic structures in cardiomyocytes. Could play a role in mechanical stretch sensing. May be a scaffold protein that promotes the assembly of interacting proteins at Z-line structures. It is essential for calcineurin anchorage to the Z line. Required for stress-induced calcineurin-NFAT activation (By similarity). The role in regulation of cytoskeleton dynamics by association with CFL2 is reported conflictingly: Shown to enhance CFL2-mediated F-actin depolymerization dependent on the CSRP3:CFL2 molecular ratio, and also shown to reduce the ability of CLF1 and CFL2 to enhance actin depolymerization (PubMed:19752190, PubMed:24934443). Proposed to contribute to the maintenance of muscle cell integrity through an actin-based mechanism. Can directly bind to actin filaments, cross-link actin filaments into bundles without polarity selectivity and protect them from dilution- and cofilin- mediated depolymerization; the function seems to involve its self- association (PubMed:24934443). In vitro can inhibit PKC/PRKCA activity (PubMed:27353086). Proposed to be involved in cardiac stress signaling by down-regulating excessive PKC/PRKCA signaling (By similarity).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:P50463}. Cytoplasm. Cytoplasm, cytoskeleton Cytoplasm, myofibril, sarcomere, Z line Cytoplasm, myofibril, sarcomere Note=Nucleocytoplasmic shuttling protein. Mainly cytoplasmic. In the Z line, found associated with GLRX3 (By similarity) {ECO:0000250|UniProtKB:P50462, ECO:0000250|UniProtKB:P50463}
Tissue Location	Cardiac and slow-twitch skeletal muscles. Isoform 2 is expressed in striated muscle. Isoform 2 is specifically expressed at higher levels in patients with neuromuscular diseases, such as limb- girdle muscular dystrophy 2A (LGMD2A), Duchenne muscular dystrophy (DMD) and dermatomyositis (PubMed:24860983)

Background

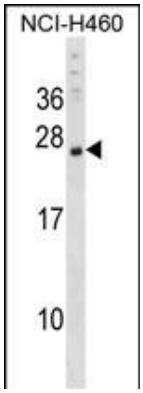
This gene encodes a member of the CSRP family of LIM domain proteins, which may be involved in regulatory processes important for development and cellular differentiation. The LIM/double zinc-finger motif found in this protein is found in a group of proteins with critical functions in gene regulation, cell growth, and somatic differentiation. Mutations in this gene are thought to cause heritable forms of hypertrophic cardiomyopathy (HCM) and dilated cardiomyopathy (DCM) in humans. Alternatively spliced transcript variants with different 5' UTR, but encoding the same protein, have been found for this gene.

References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Zimmerman, R.S., et al. Genet. Med. 12(5):268-278(2010)
Rampersaud, E., et al. Ann. Hum. Genet. 74(2):110-116(2010)
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)
Moller, D.V., et al. Eur. J. Heart Fail. 11(11):1031-1035(2009)

Images

CSRP3 Antibody (Center) (Cat. #AP17004c) western blot analysis in NCI-H460 cell line lysates (35ug/lane).This demonstrates the CSRP3 antibody detected the CSRP3



protein (arrow).