10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MARCH5 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP5677a

Product Information

Application	WB, IHC-P-Leica, E
Primary Accession	Q9NX47
Other Accession	Q6GM44, Q3KNM2, Q5ZJ41, Q3ZC24, NP_060294
Reactivity	Human, Mouse
Predicted	Chicken, Bovine, Xenopus
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB21862
Calculated MW	31232
Antigen Region	4-32

Additional Information

Gene ID	54708
Other Names	E3 ubiquitin-protein ligase MARCH5, 632-, Membrane-associated RING finger protein 5, Membrane-associated RING-CH protein V, MARCH-V, Mitochondrial ubiquitin ligase, MITOL, RING finger protein 153, MARCH5, RNF153
Target/Specificity	This MARCH5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 4-32 amino acids from the N-terminal region of human MARCH5.
Dilution	WB~~1:1000 IHC-P-Leica~~1:500 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	MARCH5 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MARCHF5 (HGNC:26025)

Synonyms	MARCH5, RNF153
Function	Mitochondrial E3 ubiquitin-protein ligase that plays a crucial role in the control of mitochondrial morphology by acting as a positive regulator of mitochondrial fission and as an important regulator of immune response (PubMed:16874301, PubMed:17606867, PubMed:26246171, PubMed:31881323). Plays a crucial role in maintaining mitochondrial homeostasis by regulating the dynamics of mitochondria through the ubiquitination of key proteins involved in fission and fusion such as FIS1, DNM1L and MFN1 (PubMed:16874301, PubMed:17606867). Acts as a critical determinant of mitotic apoptosis through both MCL1- dependent and -independent pathways (By similarity). Turns off persistent immune signaling by degrading oligomeric complexes of retinoic acid-inducible gene I/DDX58 and mitochondrial antiviral- signaling protein/MAVS formed upon RNA virus infection (PubMed:26246171, PubMed:31881323). Promotes STING-mediated type-I interferon production via 'Lys-63'-linked ubiquitination of STING1 thereby preserving its activity and preventing the formation of inactive STING1 polymers (PubMed:37916870). Plays also an essential role in the formation of PEX3-containing vesicles in the de novo biogenesis of peroxisomes from mitochondria (PubMed:39423820, PubMed:39423819). Acts as a regulator of NLRP3 inflammasome activation on the mitochondria by mediating the 'Lys-27'-linked polyubiquitination of NLRP3, positively regulating the NLRP3-NEK7 complex formation and NLRP3 oligomerization (PubMed:37575012).
Cellular Location	Mitochondrion outer membrane; Multi-pass membrane protein. Endoplasmic reticulum membrane; Multi-pass membrane protein. Peroxisome membrane. Note=Authors show that the protein can be detected in endoplasmic reticulum (PubMed:14722266). Authors (PubMed:16874301) show its presence only in mitochondria (PubMed:16874301).
Tissue Location	Expressed in brain, heart, liver, lung, spleen, stomach, testis, skeletal and muscle.

Background

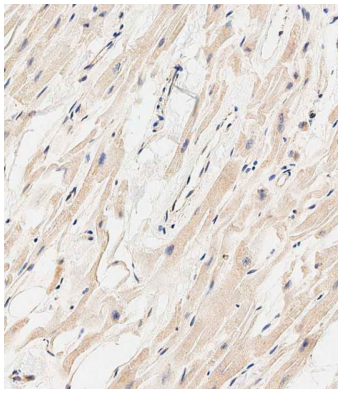
MARCH5 is a ubiquitin ligase of the mitochondrial outer membrane that plays a role in the control of mitochondrial morphology by regulating mitofusin-2 (MFN2; MIM 608507) and DRP1 (DNM1L; MIM 603850) (Nakamura et al., 2006 [PubMed 16936636]).

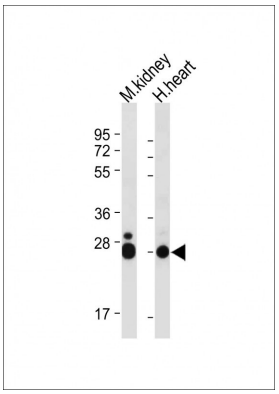
References

Yonashiro, R., et al. Mol. Biol. Cell 20(21):4524-4530(2009) Karbowski, M., et al. J. Cell Biol. 178(1):71-84(2007) Nakamura, N., et al. EMBO Rep. 7(10):1019-1022(2006)

Images

Immunohistochemical analysis of paraffin-embedded human heart tissue using AP5677A performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.





All lanes : Anti-MARCH5 Antibody (N-term) at 1:2000 dilution Lane 1: Mouse kidney tissue lysate Lane 2: Human heart tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 31 kDa Blocking/Dilution buffer: 5% NFDM/TBST.