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SARM Antibody

Catalog # ASC10239

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q6SZW1
Other Accession	NP_055892, 154090976
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	79388
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SARM antibody can be used for detection of SARM by Western blot at 0.5 to 2 g/mL. Antibody can also be used for immunocytochemistry starting at 2 g/mL. For immunofluorescence start at 2 g/mL.

Additional Information

Gene ID	23098
Other Names	SARM Antibody: SARM, SAMD2, MyD88-5, KIAA0524, SARM, Sterile alpha and TIR motif-containing protein 1, Sterile alpha and Armadillo repeat protein, sterile alpha and TIR motif containing 1
Target/Specificity	SARM1;
Reconstitution & Storage	SARM antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SARM Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SARM1
Function	NAD(+) hydrolase, which plays a key role in axonal degeneration following injury by regulating NAD(+) metabolism (PubMed:25908823, PubMed:27671644, PubMed:28334607). Acts as a negative regulator of MYD88- and TRIF-dependent toll-like receptor signaling pathway by promoting Wallerian degeneration, an injury-induced form of programmed subcellular death which involves degeneration of an axon distal to the injury site (PubMed:15123841, PubMed:16964262, PubMed:20306472, PubMed:25908823). Wallerian degeneration is triggered by NAD(+) depletion:

	in response to injury, SARM1 is activated and catalyzes cleavage of NAD(+) into ADP-D-ribose (ADPR), cyclic ADPR (cADPR) and nicotinamide; NAD(+) cleavage promoting cytoskeletal degradation and axon destruction (PubMed:25908823, PubMed:28334607, PubMed:30333228, PubMed:31128467, PubMed:31439792, PubMed:31439793, PubMed:32049506, PubMed:32828421, PubMed:33053563). Also able to hydrolyze NADP(+), but not other NAD(+)-related molecules (PubMed:29395922). Can activate neuronal cell death in response to stress (PubMed:20306472). Regulates dendritic arborization through the MAPK4-JNK pathway (By similarity). Involved in innate immune response: inhibits both TICAM1/TRIF- and MYD88-dependent activation of JUN/AP-1, TRIF-dependent activation of NF-kappa-B and IRF3, and the phosphorylation of MAPK14/p38 (PubMed:16964262).
Cellular Location	Cytoplasm. Cell projection, axon {ECO:0000250|UniProtKB:Q6PDS3}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q6PDS3}. Synapse {ECO:0000250|UniProtKB:Q6PDS3}. Mitochondrion Note=Associated with microtubules. {ECO:0000250|UniProtKB:Q6PDS3}
Tissue Location	Predominantly expressed in brain, kidney and liver. Expressed at lower level in placenta.

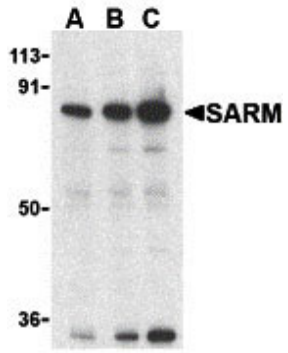
Background

SARM Antibody: Toll-like receptors (TLRs) are signaling molecules that recognize different microbial products during infection and serve as an important link between the innate and adaptive immune responses. SARM (SAM and ARM-containing protein), along with other molecules such as TIRP, TRIF, TIRAP, and MyD88, is thought to serve as an adaptor protein for the TLRs that allows for the activation of downstream kinases and NF-κB, and ultimately the expression of proteins involved in host defense. While SARM has not been conclusively shown to associate directly with TLRs, the presence of a Toll-interluekin-1 (TIR) domain in SARM is consistent with a role as a signaling molecule.

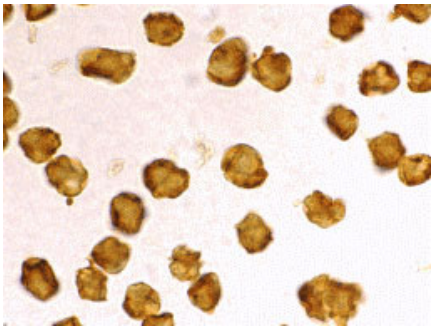
References

Vogel SN, Fitzgerald KA, and Fenton MJ. TLRs: differential adapter utilization by toll-like receptors mediates TLR-specific patterns of gene expression. Mol. Interv. 2003; 3:466-77.
Takeda K, Kaisho T, and Akira S. Toll-like receptors. Annu. Rev. Immunol. 2003; 21:335-76.
Janeway CA Jr and Medzhitov R. Innate immune recognition. Annu. Rev. Immunol. 2002; 20:197-216.
O'Neill LAJ, Fitzgerald FA, and Bowie AG. The Toll-IL-1 receptor adaptor family grows to five members. Trends in Imm. 2003; 24:286-9.

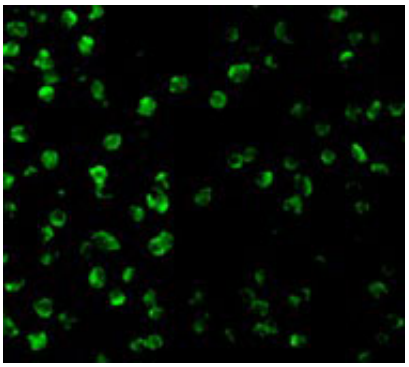
Images



Western blot analysis of SARM in Daudi cell lysates with SARM antibody at (A) 0.5, (B) 1, and (C) 2 µg/mL.



Immunocytochemistry staining of Daudi cells using SARM antibody at 2 µg/mL.



Immunofluorescence of SARM in Daudi cells with SARM antibody at 2 µg/mL.