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MSR1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17001B

Product Information

Application	WB, E
Primary Accession	P21757
Other Accession	P21758, NP_619729.1, NP_619730.1
Reactivity	Human, Mouse
Predicted	Bovine, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB36746
Calculated MW	49762
Antigen Region	336-364

Additional Information

Gene ID	4481
Other Names	Macrophage scavenger receptor types I and II, Macrophage acetylated LDL receptor I and II, Scavenger receptor class A member 1, CD204, MSR1, SCARA1
Target/Specificity	This MSR1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 336-364 amino acids from the C-terminal region of human MSR1.
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	MSR1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MSR1
Synonyms	SCARA1

Function	Membrane receptor that mediates the binding, endocytosis and phagocytosis of a broad range of ligands. Recognizes and internalizes modified forms of low-density lipoproteins including acetylated LDL (AcLDL) and oxidized LDL (OxLDL), thereby promoting cholesterol uptake and contributing to foam cell formation during atherogenesis (PubMed:2251254, PubMed:34252459). Binds various pathogen-associated and damage-associated molecules, including bacterial cell wall components, apoptotic cell debris and polyanionic ligands, supporting macrophage clearance activity in innate immune defense (PubMed:10722588). Upon stimulation by CpG DNA, mediates activation of LYN, which phosphorylates SYK that is subsequently recruited to endosomal TLR9 to promote downstream TLR9 signaling (PubMed:29057947, PubMed:40980882).
Cellular Location	Cell membrane; Single-pass type II membrane protein
Tissue Location	Isoform I, isoform II and isoform III are expressed in monocyte-derived macrophages. Isoform I and isoform II are expressed in the liver, placenta and brain.

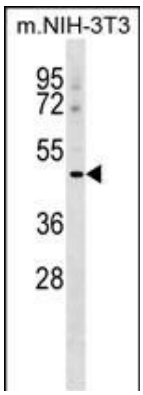
Background

This gene encodes the class A macrophage scavenger receptors, which include three different types (1, 2, 3) generated by alternative splicing of this gene. These receptors or isoforms are macrophage-specific trimeric integral membrane glycoproteins and have been implicated in many macrophage-associated physiological and pathological processes including atherosclerosis, Alzheimer's disease, and host defense. The isoforms type 1 and type 2 are functional receptors and are able to mediate the endocytosis of modified low density lipoproteins (LDLs). The isoform type 3 does not internalize modified LDL (acetyl-LDL) despite having the domain shown to mediate this function in the types 1 and 2 isoforms. It has an altered intracellular processing and is trapped within the endoplasmic reticulum, making it unable to perform endocytosis. The isoform type 3 can inhibit the function of isoforms type 1 and type 2 when co-expressed, indicating a dominant negative effect and suggesting a mechanism for regulation of scavenger receptor activity in macrophages.

References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Wang, Y., et al. J. Hum. Genet. 55(8):490-494(2010)
Voruganti, V.S., et al. Am. J. Clin. Nutr. 91(6):1574-1583(2010)
Nonomura, N., et al. Cancer Sci. 101(6):1570-1573(2010)
Seizer, P., et al. Semin. Thromb. Hemost. 36(2):157-162(2010)

Images



MSR1 Antibody (C-term) (Cat. #AP17001b) western blot analysis in mouse NIH-3T3 cell line lysates (35ug/lane).This demonstrates the MSR1 antibody detected the MSR1 protein (arrow).

Citations

- AMP-activated protein kinase attenuates oxLDL uptake in macrophages through PP2A/NF-κB/LOX-1 pathway.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.