SANTA CRUZ BIOTECHNOLOGY, INC.

SR-A (B-9): sc-166139

BACKGROUND

The macrophage class A scavenger receptor (SR-A) mediates the uptake of modified low density lipoprotein (LDL). The gene encoding human SR-A maps to chromosome 8 and gives rise to two alternatively spliced isoforms, type I and II (SR-AI and SR-AII), which were originally cloned from the phorbol ester-treated human monocytic cell line THP-1. Both isoforms contain six domains: cytoplasmic (I), membrane-spanning (II), spacer (III), α-helical coiled-coil (IV), collagen-like (V) and a type-specific C-terminal (VI). Domain IV is essential for the trimerization of SR-A, whereas domain V is essential for the wide range of ligand recognition. SR-A is expressed in liver, placenta and brain. Both SR-AI and SR-AII mediate the uptake of LDLs in atherosclerotic lesions. A third isoform, SR-AIII, is unable to uptake LDLs and acts as a dominant negative isoform to possibly protect cells found in advanced atherosclerotic lesions. SR-A plays a role not only in many macrophage-associated pathological processes, including atherosclerosis and Alzheimer's disease, but also in host defense and as an adhesion molecule.

REFERENCES

1. Matsumoto, A., et al. 1990. Human macrophage scavenger receptors: primary structure, expression, and localization in atherosclerotic lesions. Proc. Natl. Acad. Sci. USA 87: 9133-9137.
2. Liao, H.S., et al. 1996. Multiple function of macrophage scavenger receptors mediated by fibrous coiled-coil domains. Gerontology 42: 37-47.
4. Yokota, T., et al. 1998. Scavenger receptors mediate adhesion of activated B lymphocytes. Exp. Cell Res. 239: 16-22.

CHROMOSOMAL LOCATION

Genetic locus: MSR1 (human) mapping to 8p22; Msr1 (mouse) mapping to 8 A4.

SOURCE

SR-A (B-9) is a mouse monoclonal antibody raised against amino acids 61-250 of SR-A of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SR-A (B-9) is available conjugated to agarose (sc-166139 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166139 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166139 PE), fluorescein (sc-166139 FITC), Alexa Fluor® 488 (sc-166139 AF488), Alexa Fluor® 546 (sc-166139 AF546), Alexa Fluor® 594 (sc-166139 AF594) or Alexa Fluor® 647 (sc-166139 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166139 AF680) or Alexa Fluor® 790 (sc-166139 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

SR-A (B-9) is recommended for detection of SR-A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

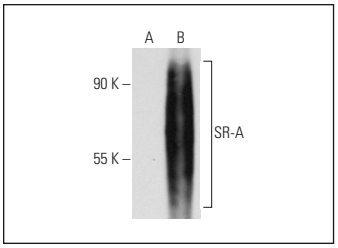
Suitable for use as control antibody for SR-A siRNA (h): sc-44116, SR-A siRNA (m): sc-40188, SR-A shRNA Plasmid (h): sc-44116-SH, SR-A shRNA Plasmid (m): sc-40188-SH, SR-A shRNA (h) Lentiviral Particles: sc-44116-V and SR-A shRNA (m) Lentiviral Particles: sc-40188-V.

Molecular Weight of glycosylated SR-A: 75 kDa.

Molecular Weight of SR-A isoforms: 50/40/43 kDa.

Positive Controls: SR-A (h2): 293T Lysate: sc-111501, U-937 cell lysate: sc-2239 or THP-1 cell lysate: sc-2238.

DATA



SR-A (B-9): sc-166139. Western blot analysis of SR-A expression in non-transfected: sc-117752 (**A**) and human SR-A transfected: sc-111501 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ren, Z., et al. 2020. Anti-glycolipid disorder effect of epigallocatechin-3-gallate on high-fat diet and STZ-induced T2DM in mice. Mol. Med. Rep. 21: 2475-2483.
2. Zhu, X., et al. 2021. SR-A1 prevents obesity-associated blood pressure elevation through suppressing overproduction of VEGF-B in macrophages. Cardiovasc. Res. 117: 547-560.
3. Cheng, W.L., et al. 2021. ALK7 acts as a positive regulator of macrophage activation through down-regulation of PPARγ expression. J. Atheroscler. Thromb. 28: 375-384.
4. Cheng, W.L., et al. 2021. PAK1 silencing attenuated proinflammatory macrophage activation and foam cell formation by increasing PPARγ expression. Oxid. Med. Cell. Longev. 2021: 6957900.
5. Turati, J., et al. 2022. A metabotropic glutamate receptor 3 (mGlu3R) isoform playing neurodegenerative roles in astrocytes is prematurely up-regulated in an Alzheimer's model. J. Neurochem. 161: 366-382.

RESEARCH USE

For research use only, not for use in diagnostic procedures.