SANTA CRUZ BIOTECHNOLOGY, INC.

SR-A (H-190): sc-20660

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: MSR1 (human) mapping to 8p22.

SOURCE

SR-A (H-190) is a rabbit polyclonal antibody raised against amino acids 61-250 of SR-A of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SR-A (H-190) is recommended for detection of SR-A of human origin by Western Blotting (starting dilution 1:200, 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 shRNA Plasmid (h): sc-44116-SH and SR-A shRNA (h) Lentiviral Particles: sc-44116-V.

Molecular Weight of SR-A: 75 kDa.

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

STORAGE

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

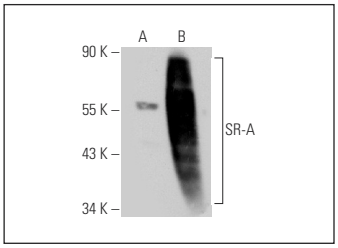
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

RESEARCH USE

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

DATA



SR-A (H-190): sc-20660. 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. Higashi, Y., et al. 2005. A redox-sensitive pathway mediates oxidized LDL-induced downregulation of Insulin-like growth factor-1 receptor. J. Lipid Res. 46: 1266-1277.
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3. McLaren, J.E., et al. 2011. Eicosapentaenoic acid and docosahexaenoic acid regulate modified LDL uptake and macropinocytosis in human macrophages. Lipids 46: 1053-1061.
4. Zhao, Z.Z., et al. 2011. Hydrogen sulfide inhibits macrophage-derived foam cell formation. Exp. Biol. Med. 236: 169-176.
5. Farrow, A.L., et al. 2011. Leishmania-induced repression of selected non-coding RNA genes containing B-box element at their promoters in alternatively polarized M_2 macrophages. Mol. Cell. Biochem. 350: 47-57.
6. Michael, D.R., et al. 2012. TGF-β inhibits the uptake of modified low density lipoprotein by human macrophages through a Smad-dependent pathway: a dominant role for Smad-2. Biochim. Biophys. Acta 1822: 1608-1616.
7. Smith, D.D., et al. 2012. Mast cell deficiency attenuates progression of atherosclerosis and hepatic steatosis in apolipoprotein E-null mice. Am. J. Physiol. Heart Circ. Physiol. 302: H2612-H2621.
8. Kotla, S., et al. 2014. ROS-dependent Syk and Pyk2-mediated STAT1 activation is required for 15(S)-hydroxyeicosatetraenoic acid-induced CD36 expression and foam cell formation. Free Radic. Biol. Med. 76: 147-162.