SANTA CRUZ BIOTECHNOLOGY, INC.

# SR-A (E-5): sc-166184

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 8p22 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 (E-5) is a mouse monoclonal antibody raised against amino acids 61-250 of SR-A of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SR-A (E-5) is available conjugated to agarose (sc-166184 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166184 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166184 PE), fluorescein (sc-166184 FITC), Alexa Fluor® 488 (sc-166184 AF488), Alexa Fluor® 546 (sc-166184 AF546), Alexa Fluor® 594 (sc-166184 AF594) or Alexa Fluor® 647 (sc-166184 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166184 AF680) or Alexa Fluor® 790 (sc-166184 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

SR-A (E-5) is recommended for detection of SR-A of 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), immunohistochemistry (including paraffin-embedded sections) (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.

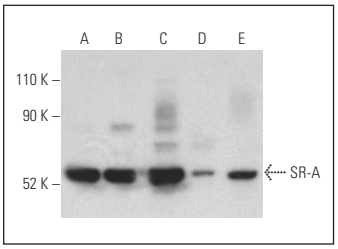
Molecular Weight of glycosylated SR-A: 75 kDa.

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

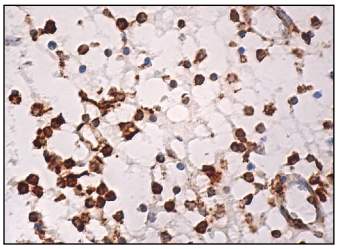
## STORAGE

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

## DATA




SR-A (E-5): sc-166184. Western blot analysis of SR-A expression in THP-1 (**A**) and CCRF-CEM (**B**) whole cell lysates and human liver (**C**), human placenta (**D**) and human lung (**E**) tissue extracts. Detection reagent used: m-$IgG_{2a}$ BP-HRP: sc-542731.



SR-A (E-5): sc-166184. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of hematopoietic cells.

## SELECT PRODUCT CITATIONS


1. Chen, Y., et al. 2014. Interleukin 8 inhibition enhanced cholesterol efflux in acetylated low-density lipoprotein-stimulated THP-1 macrophages. J. Investig. Med. 62: 615-620.
2. Soldano, S., et al. 2016. Alternatively activated (M2) macrophage phenotype is inducible by endothelin-1 in cultured human macrophages. PLoS ONE 11: e0166433.
3. Duan, J., et al. 2017. Tetramethylpyrazine suppresses lipid accumulation in macrophages via upregulation of the ATP-binding cassette transporters and downregulation of scavenger receptors. Oncol. Rep. 38: 2267-2276.
4. Xie, M., et al. 2020. Scavenger receptor A impairs interferon response to HBV infection by limiting TRAF3 ubiquitination through recruiting OTUB1. FEBS J. 287: 310-324.
5. Wang, G., et al. 2021. CTRP12 ameliorates atherosclerosis by promoting cholesterol efflux and inhibiting inflammatory response via the miR-155-5p/ LXRα pathway. Cell Death Dis. 12: 254.
6. Sanders, S., et al. 2021. The presence and potential role of ALDH1A2 in the glioblastoma microenvironment. Cells 10: 2485.
7. Li, L., et al. 2022. SRA Suppresses antiviral innate immune response in macrophages by limiting TBK1 K63 ubiquitination via deubiquitinase USP15. Microbiol. Spectr. 10: e0202822.
8. Tan, W.H., et al. 2022. CTRP15 promotes macrophage cholesterol efflux and attenuates atherosclerosis by increasing the expression of ABCA1. J. Physiol. Biochem. 78: 653-666.
9. Cheng, W., et al. 2023. Scavenger receptor a mediates glycated LDL transcytosis across endothelial cells to promote atherosclerosis. Int. J. Biol. Macromol. 235: 123836.


## RESEARCH USE

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