ARH (H-119): sc-292294

SANTA CRUZ® BIOTECHNOLOGY

The Power to Question

BACKGROUND

ARH (autosomal recessive hypercholesterolemia protein), also known as LDLRAP1 (low density lipoprotein receptor adapter protein 1), is a 308 amino acid cytoplasmic protein that contains one PID domain. ARH is an adapter protein required for efficient endocytosis of the LDL receptor (LDLR) from coated pits in polarized cells such as hepatocytes and lymphocytes. To do this, ARH acts to stabilize the interaction between the receptor and the structural components of the pits. While expressed at high levels in kidney, liver and placenta, ARH is expressed at low levels in brain, heart, muscle, colon, spleen, intestine, lung and leukocytes. Defects in the ARH gene are the cause of autosomal recessive hypercholesterolemia, a disorder caused by defective internalization of LDL receptors (LDLR) in the liver. Autosomal recessive hypercholesterolemia has the clinical features of familial hypercholesterolemia (FH), including severely elevated plasma LDL cholesterol, tuberous and tendon xanthomata, and premature atherosclerosis.

REFERENCES

1. Ciccarese, M., et al. 2000. A new locus for autosomal recessive hypercholesterolemia maps to human chromosome 15q25-q26. Am. J. Hum. Genet. 66: 453-460.

2. He, G., et al. 2002. ARH is a modular adaptor protein that interacts with the LDL receptor, clathrin, and AP-2. J. Biol. Chem. 277: 44044-44049.

3. Mishra, S.K., et al. 2002. The autosomal recessive hypercholesterolemia (ARH) protein interfaces directly with the clathrin-coat machinery. Proc. Natl. Acad. Sci. USA 99: 16099-16104.

4. Wilund, K.R., et al. 2002. Molecular mechanisms of autosomal recessive hypercholesterolemia. Hum. Mol. Genet. 11: 3019-3030.

5. Nagai, M., et al. 2003. The adaptor protein ARH escorts megalin to and through endosomes. Mol. Biol. Cell 14: 4984-4996.

6. Michaely, P., et al. 2004. The modular adaptor protein ARH is required for low density lipoprotein (LDL) binding and internalization but not for LDL receptor clustering in coated pits. J. Biol. Chem. 279: 34023-34031.

CHROMOSOMAL LOCATION

Genetic locus: LDLRAP1 (human) mapping to 1p36.11; Ldlrap1 (mouse) mapping to 4 D3.

SOURCE

ARH (H-119) is a rabbit polyclonal antibody raised against amino acids 74-192 mapping within an internal region of ARH 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.

STORAGE

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

APPLICATIONS

ARH (H-119) is recommended for detection of ARH of mouse, rat and 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).

ARH (H-119) is also recommended for detection of ARH in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for ARH siRNA (h): sc-106784, ARH siRNA (m): sc-141195, ARH shRNA Plasmid (h): sc-106784-SH, ARH shRNA Plasmid (m): sc-141195-SH, ARH shRNA (h) Lentiviral Particles: sc-106784-V and ARH shRNA (m) Lentiviral Particles: sc-141195-V.

Molecular Weight of ARH: 35

Positive Controls: ARH (h): 293T Lysate: sc-114378, NCI-H460 whole cell lysate: sc-364235 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA
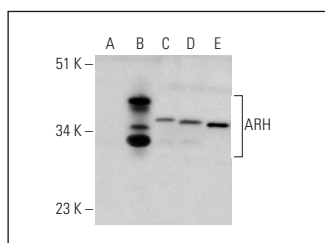
ARH (H-119): sc-292294. Western blot analysis of ARH expression in non-transfected 293T: sc-117752 (**A**), human ARH transfected 293T: sc-114378 (**B**), NCI-H460 (**C**), Hep G2 (**D**) and U-87 MG (**E**) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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