SANTA CRUZ BIOTECHNOLOGY, INC.

ARH (E-10): sc-514263

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. Garcia, C.K., et al. 2001. Autosomal recessive hypercholesterolemia caused by mutations in a putative LDL receptor adaptor protein. Science 292: 1394-1398.
2. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605747. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Al-Kateb, H., et al. 2002. Mutation in the ARH gene and a chromosome 13q locus influence cholesterol levels in a new form of digenic-recessive familial hypercholesterolemia. Circ. Res. 90: 951-958.
4. Wilund, K.R., et al. 2002. Molecular mechanisms of autosomal recessive hypercholesterolemia. Hum. Mol. Genet. 11: 3019-3030.
5. 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.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: LDLRAP1 (human) mapping to 1p36.11.

SOURCE

ARH (E-10) is a mouse monoclonal antibody raised against amino acids 74-192 mapping within an internal region of ARH 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.

STORAGE

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

APPLICATIONS

ARH (E-10) is recommended for detection of ARH 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

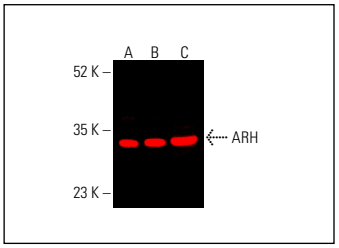
Molecular Weight of ARH: 35 kDa.

Positive Controls: NCI-H460 whole cell lysate: sc-364235, Hep G2 cell lysate: sc-2227 or U-87 MG cell lysate: sc-2411.

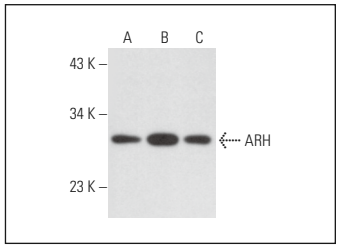
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ARH (E-10): sc-514263. Near-Infrared western blot analysis of ARH expression in Hep G2 (**A**), U-87 MG (**B**) and NCI-H460 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 790: sc-542740.



ARH (E-10): sc-514263. Western blot analysis of ARH expression in Hep G2 (**A**), NCI-H460 (**B**) and SCC-4 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Xian, M., et al. 2024. Leukocyte immunoglobulin-like receptor B1 (LILRB1) protects human multiple myeloma cells from ferroptosis by maintaining cholesterol homeostasis. Nat. Commun. 15: 5767.

RESEARCH USE

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