

# ARV1 (D-13): sc-162543

## BACKGROUND

ARV1 (ARV1 homolog), also known as hARV1, is a 271 amino acid multi-pass membrane protein that belongs to the ARV1 family. ARV1 contains an N-terminal ARV1 homology domain (AHD), which encompasses a zinc-binding motif and a transmembrane domain, and five central and C-terminal transmembrane domains. Encoded by a gene that maps to human chromosome 1q42.2, ARV1 is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish and *Caenorhabditis elegans*, and shares 44% amino acid identity with its yeast homolog. ARV1 plays a role in sphingolipid metabolism, with overexpression likely suppressing lipid metabolic defects. ARV1 may assist with ceramide transport between endoplasmic reticulum and Golgi apparatus, and may also function as a sterol homeostasis mediator.

## REFERENCES

1. Sturley, S.L. 2000. Conservation of eukaryotic sterol homeostasis: new insights from studies in budding yeast. *Biochim. Biophys. Acta* 1529: 155-163.
2. Tinkelenberg, A.H., et al. 2000. Mutations in yeast ARV1 alter intracellular sterol distribution and are complemented by human ARV1. *J. Biol. Chem.* 275: 40667-40670.
3. Wilcox, L.J., et al. 2002. Transcriptional profiling identifies two members of the ATP-binding cassette transporter superfamily required for sterol uptake in yeast. *J. Biol. Chem.* 277: 32466-32472.
4. Swain, E., et al. 2002. Yeast cells lacking the ARV1 gene harbor defects in sphingolipid metabolism. Complementation by human ARV1. *J. Biol. Chem.* 277: 36152-36160.
5. Reiner, S., et al. 2005. *Saccharomyces cerevisiae*, a model to study sterol uptake and transport in eukaryotes. *Biochem. Soc. Trans.* 33: 1186-1188.
6. Miller, J.P., et al. 2005. Large-scale identification of yeast integral membrane protein interactions. *Proc. Natl. Acad. Sci. USA* 102: 12123-12128.
7. Schneiter, R. 2007. Intracellular sterol transport in eukaryotes, a connection to mitochondrial function? *Biochimie* 89: 255-259.
8. Kajiwara, K., et al. 2008. Yeast ARV1 is required for efficient delivery of an early GPI intermediate to the first mannosyltransferase during GPI assembly and controls lipid flow from the endoplasmic reticulum. *Mol. Biol. Cell* 19: 2069-2082.
9. Tong, F., et al. 2010. Decreased expression of ARV1 results in cholesterol retention in the endoplasmic reticulum and abnormal bile acid metabolism. *J. Biol. Chem.* 285: 33632-33641.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: ARV1 (human) mapping to 1q42.2.

## SOURCE

ARV1 (D-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ARV1 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.

Blocking peptide available for competition studies, sc-162543 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ARV1 (D-13) is recommended for detection of ARV1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 ARV1 siRNA (h): sc-78605, ARV1 shRNA Plasmid (h): sc-78605-SH and ARV1 shRNA (h) Lentiviral Particles: sc-78605-V.

Molecular Weight of ARV1: 31 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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