

ARV1 (4G12): sc-517099

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

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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. Schneider, R. 2007. Intracellular sterol transport in eukaryotes, a connection to mitochondrial function? *Biochimie* 89: 255-259.
8. Kajiwar, 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.

CHROMOSOMAL LOCATION

Genetic locus: ARV1 (human) mapping to 1q42.2; Arv1 (mouse) mapping to 8 E2.

SOURCE

ARV1 (4G12) is a mouse monoclonal antibody raised against amino acids 1-271 representing full length ARV1 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ARV1 (4G12) is recommended for detection of ARV1 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)] 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 siRNA (m): sc-141281, ARV1 shRNA Plasmid (h): sc-78605-SH, ARV1 shRNA Plasmid (m): sc-141281-SH, ARV1 shRNA (h) Lentiviral Particles: sc-78605-V and ARV1 shRNA (m) Lentiviral Particles: sc-141281-V.

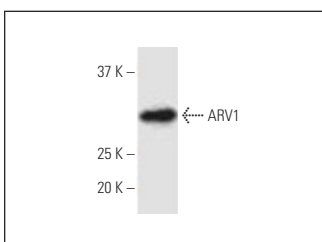
Molecular Weight of ARV1: 31 kDa.

Positive Controls: rat testis extract: sc-2400.

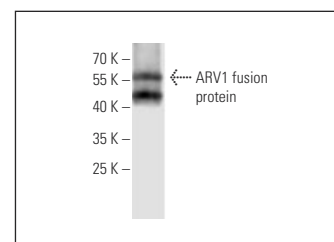
RECOMMENDED SUPPORT REAGENTS

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).

DATA



ARV1 (4G12): sc-517099. Western blot analysis of ARV1 expression in rat testis tissue extract.



ARV1 (4G12): sc-517099. Western blot analysis of human recombinant ARV1 fusion protein.

SELECT PRODUCT CITATIONS

1. Davids, M., et al. 2020. Homozygous splice-variants in human ARV1 cause GPI-anchor synthesis deficiency. *Mol. Genet. Metab. pii: S1096-7192(20)30055-X.*

STORAGE

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

RESEARCH USE

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