

# ZFYVE1 (A-9): sc-515049



The Power to Question

## BACKGROUND

ZFYVE1 (zinc finger FYVE domain-containing protein 1), also known as double FYVE-containing protein 1, SR3 or tandem FYVE fingers-1, is a 777 amino acid protein that mainly localizes to the cisternal stacks of Golgi apparatus. ZFYVE1 has two FYVE-type zinc fingers and exists as two isoforms formed by alternative splicing events. Isoform 1 is expressed in brain, placenta, lung, liver, skeletal muscle, pancreas and kidney while isoform 2 is detected in the testis. Both isoforms 1 and 2 are highly expressed in the heart. The gene encoding ZFYVE1 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presenilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder  $\alpha$ 1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

## REFERENCES

1. Derubeis, A.R., et al. 2000. Double FYVE-containing protein 1 (DFCP1): isolation, cloning and characterization of a novel FYVE finger protein from a human bone marrow cDNA library. *Gene* 255: 195-203.
2. Cheung, P.C., et al. 2001. Characterization of a novel phosphatidylinositol 3-phosphate-binding protein containing two FYVE fingers in tandem that is targeted to the Golgi. *Biochem. J.* 355: 113-121.
3. Ridley, S.H., et al. 2001. FENS-1 and DFPC1 are FYVE domain-containing proteins with distinct functions in the endosomal and Golgi compartments. *J. Cell Sci.* 114: 3991-4000.
4. Avramopoulos, D., et al. 2005. Linkage to chromosome 14q in Alzheimer's disease (AD) patients without psychotic symptoms. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 132B: 9-13.

## CHROMOSOMAL LOCATION

Genetic locus: ZFYVE1 (human) mapping to 14q24.2; Zfyve1 (mouse) mapping to 12 D1.

## SOURCE

ZFYVE1 (A-9) is a mouse monoclonal antibody raised against amino acids 402-479 mapping within an internal region of ZFYVE1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ZFYVE1 (A-9) is available conjugated to agarose (sc-515049 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515049 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515049 PE), fluorescein (sc-515049 FITC), Alexa Fluor<sup>®</sup> 488 (sc-515049 AF488), Alexa Fluor<sup>®</sup> 546 (sc-515049 AF546), Alexa Fluor<sup>®</sup> 594 (sc-515049 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-515049 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-515049 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-515049 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

ZFYVE1 (A-9) is recommended for detection of ZFYVE1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 ZFYVE1 siRNA (h): sc-92096, ZFYVE1 siRNA (m): sc-155602, ZFYVE1 shRNA Plasmid (h): sc-92096-SH, ZFYVE1 shRNA Plasmid (m): sc-155602-SH, ZFYVE1 shRNA (h) Lentiviral Particles: sc-92096-V and ZFYVE1 shRNA (m) Lentiviral Particles: sc-155602-V.

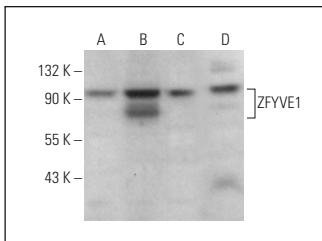
Molecular Weight of ZFYVE1 isoforms: 87/40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NTERA-2 cl.D1 whole cell lysate: sc-364181 or HEK293T whole cell lysate: sc-45137.

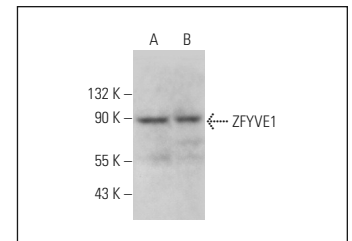
## RECOMMENDED SUPPORT REAGENTS

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

## DATA



ZFYVE1 (A-9): sc-515049. Western blot analysis of ZFYVE1 expression in HeLa (A), Jurkat (B), K-562 (C) and F9 (D) whole cell lysates.



ZFYVE1 (A-9): sc-515049. Western blot analysis of ZFYVE1 expression in NTERA-2 cl.D1 (A) and HEK293T (B) whole cell lysates.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.