

VPS54 (B-4): sc-398300



The Power to Question

BACKGROUND

Vacuolar sorting proteins (VPSs) are required for proper trafficking of endocytic and biosynthetic proteins to the vacuole and play an important role in the budding process of cells. VPS54 (vacuolar protein sorting 54), also known as HCC8, SLP-8p or VPS54L, is a 977 amino acid protein that localizes to the golgi apparatus and belongs to the VPS family. Expressed as multiple alternatively spliced isoforms, VPS54 functions as a component of the multi-protein golgi-associated retrograde protein (GARP) complex and is thought to be involved in retrograde transport of early and late endosomes to the golgi. The gene encoding VPS54 maps to human chromosome 2p14, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

1. Fuchs, S., et al. 2002. Comparative transcription map of the wobbler critical region on mouse chromosome 11 and the homologous region on human chromosome 2p13-14. *BMC Genet.* 3: 14.
2. Walter, L., et al. 2002. Identification, characterization and cytogenetic mapping of a yeast VPS54 homolog in rat and mouse. *Gene* 285: 213-220.
3. Liewen, H., et al. 2005. Characterization of the human GARP (Golgi associated retrograde protein) complex. *Exp. Cell Res.* 306: 24-34.

CHROMOSOMAL LOCATION

Genetic locus: VPS54 (human) mapping to 2p14; Vps54 (mouse) mapping to 11 A3.1.

SOURCE

VPS54 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 917-944 near the C-terminus of VPS54 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.

VPS54 (B-4) is available conjugated to agarose (sc-398300 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398300 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398300 PE), fluorescein (sc-398300 FITC), Alexa Fluor® 488 (sc-398300 AF488), Alexa Fluor® 546 (sc-398300 AF546), Alexa Fluor® 594 (sc-398300 AF594) or Alexa Fluor® 647 (sc-398300 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398300 AF680) or Alexa Fluor® 790 (sc-398300 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398300 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

VPS54 (B-4) is recommended for detection of VPS54 of mouse, rat and 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).

VPS54 (B-4) is also recommended for detection of VPS54 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for VPS54 siRNA (h): sc-94724, VPS54 siRNA (m): sc-155223, VPS54 shRNA Plasmid (h): sc-94724-SH, VPS54 shRNA Plasmid (m): sc-155223-SH, VPS54 shRNA (h) Lentiviral Particles: sc-94724-V and VPS54 shRNA (m) Lentiviral Particles: sc-155223-V.

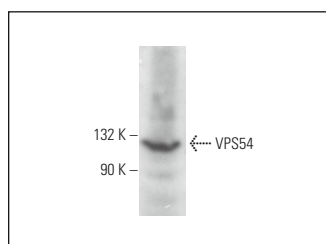
Molecular Weight of VPS54: 111 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812 or human hippocampus tissue extract.

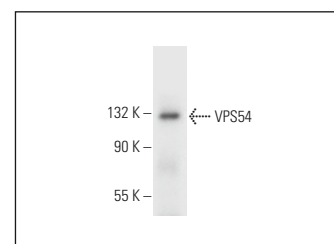
RECOMMENDED SUPPORT REAGENTS

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



VPS54 (B-4): sc-398300. Western blot analysis of VPS54 expression in SH-SY5Y whole cell lysate.



VPS54 (B-4): sc-398300. Western blot analysis of VPS54 expression in human hippocampus tissue extract.

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.