

# VPS41 (D-12): sc-377118

## 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. VPS41 (vacuolar protein sorting 41), also known as HVPS41, is an 854 amino acid protein that contains one clathrin repeat and one RING-type zinc finger. Existing as two alternatively spliced isoforms, designated short and long, VPS41 is required for proper vacuolar assembly and vacuolar traffic, playing a role in the formation and fusion of transport vesicles from the Golgi. The gene encoding VPS41 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

## CHROMOSOMAL LOCATION

Genetic locus: VPS41 (human) mapping to 7p14.1; Vps41 (mouse) mapping to 13 A2.

## SOURCE

VPS41 (D-12) is a mouse monoclonal antibody raised against amino acids 301-600 mapping within an internal region of VPS41 of human origin.

## PRODUCT

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

VPS41 (D-12) is available conjugated to agarose (sc-377118 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377118 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377118 PE), fluorescein (sc-377118 FITC), Alexa Fluor® 488 (sc-377118 AF488), Alexa Fluor® 546 (sc-377118 AF546), Alexa Fluor® 594 (sc-377118 AF594) or Alexa Fluor® 647 (sc-377118 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377118 AF680) or Alexa Fluor® 790 (sc-377118 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

VPS41 (D-12) is recommended for detection of VPS41 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VPS41 (D-12) is also recommended for detection of VPS41 in additional species, including bovine.

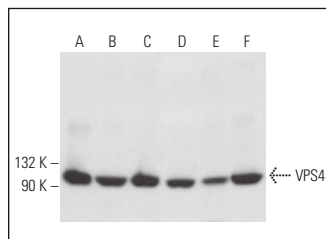
Suitable for use as control antibody for VPS41 siRNA (h): sc-76907, VPS41 siRNA (m): sc-76908, VPS41 shRNA Plasmid (h): sc-76907-SH, VPS41 shRNA Plasmid (m): sc-76908-SH, VPS41 shRNA (h) Lentiviral Particles: sc-76907-V and VPS41 shRNA (m) Lentiviral Particles: sc-76908-V.

Molecular Weight of VPS41: 99 kDa.

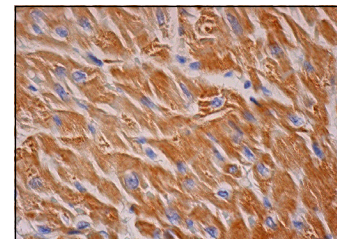
## STORAGE

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

## DATA



VPS41 (D-12): sc-377118. Western blot analysis of VPS41 expression in Caki-1 (A), HEL 92.1.7 (B), HEK293 (C), Neuro-2A (D), C6 (E) and IMR-32 (F) whole cell lysates.



VPS41 (D-12): sc-377118. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

- Hunter, M.R., et al. 2017. VPS18 recruits VPS41 to the human HOPS complex via a RING-RING interaction. *Biochem. J.* 474: 3615-3626.
- Jeschke, A. and Haas, A. 2018. Sequential actions of phosphatidylinositol phosphates regulate phagosome-lysosome fusion. *Mol. Biol. Cell* 29: 452-465.
- Sharma, G., et al. 2019. A family of PIKFYVE inhibitors with therapeutic potential against autophagy-dependent cancer cells disrupt multiple events in lysosome homeostasis. *Autophagy* 15: 1694-1718.
- Ding, X., et al. 2019. RAB2 regulates the formation of autophagosome and autolysosome in mammalian cells. *Autophagy* 15: 1774-1786.
- Cheng, X., et al. 2019. Pacer is a mediator of mTORC1 and GSK3-TIP60 signaling in regulation of autophagosome maturation and lipid metabolism. *Mol. Cell* 73: 788-802.e7.
- Burns, C.H., et al. 2021. Pancreatic β-cell specific deletion of VPS41 causes diabetes due to defects in Insulin secretion. *Diabetes* 70: 436-448.
- Gubas, A., et al. 2021. The endolysosomal adaptor PLEKHM1 is a direct target for both mTOR and MAPK pathways. *FEBS Lett.* 595: 864-880.
- Chassefeyre, R., et al. 2021. Endosomal sorting drives the formation of axonal prion protein endogresomes. *Sci. Adv.* 7: eabg3693.
- Oe, Y., et al. 2022. PACSIN1 is indispensable for amphisome-lysosome fusion during basal autophagy and subsets of selective autophagy. *PLoS Genet.* 18: e1010264.
- Schleinitz, A., et al. 2023. Consecutive functions of small GTPases guide HOPS-mediated tethering of late endosomes and lysosomes. *Cell Rep.* 42: 111969.

## RESEARCH USE

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

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