

VAC14 (F-12): sc-365272



The Power to Question

BACKGROUND

Phosphatidylinositol 3,5-bisphosphate (PI(3,5)P₂) is a signaling molecule that exists as a minor component of cell membranes and is essential for the distinguishing of cellular compartments. The synthesis of PI(3,5)P₂ is regulated by a number of proteins that are involved in intracellular trafficking and assembly events throughout the cell. VAC14, also known as TAX1BP2 (Tax1-binding protein 2) or TRX, is a 782 amino acid protein that contains 6 HEAT repeats and exists as part of a regulatory complex with FIG4. Expressed ubiquitously, VAC14 works with FIG4 to control the synthesis of PI(3,5)P₂, specifically mediating the activation of PIP5KIII, a kinase involved in the regulation of PI(3,5)P₂ activity. The gene encoding VAC14 maps to human chromosome 16q22.1, which houses over 900 genes and comprises nearly 3% of the human genome.

REFERENCES

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- Sbrissa, D., et al. 2004. A mammalian ortholog of *Saccharomyces cerevisiae* VAC14 that associates with and upregulates PIKfyve phosphoinositide 5-kinase activity. *Mol. Cell. Biol.* 24: 10437-10447.
- Lemaire, J.F. and McPherson, P.S. 2006. Binding of VAC14 to neuronal nitric oxide synthase: characterisation of a new internal PDZ-recognition motif. *FEBS Lett.* 580: 6948-6954.
- Ching, Y.P., et al. 2006. The retroviral oncoprotein Tax targets the coiled-coil centrosomal protein TAX1BP2 to induce centrosome overduplication. *Nat. Cell Biol.* 8: 717-724.
- Zhang, Y., et al. 2007. Loss of VAC14, a regulator of the signaling lipid phosphatidylinositol 3,5-bisphosphate, results in neurodegeneration in mice. *Proc. Natl. Acad. Sci. USA* 104: 17518-17523.

CHROMOSOMAL LOCATION

Genetic locus: VAC14 (human) mapping to 16q22.1; Vac14 (mouse) mapping to 8 E1.

SOURCE

VAC14 (F-12) is a mouse monoclonal antibody raised against amino acids 421-681 mapping within an internal region of VAC14 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VAC14 (F-12) is available conjugated to agarose (sc-365272 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365272 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365272 PE), fluorescein (sc-365272 FITC), Alexa Fluor® 488 (sc-365272 AF488), Alexa Fluor® 546 (sc-365272 AF546), Alexa Fluor® 594 (sc-365272 AF594) or Alexa Fluor® 647 (sc-365272 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365272 AF680) or Alexa Fluor® 790 (sc-365272 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

VAC14 (F-12) is recommended for detection of VAC14 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).

Suitable for use as control antibody for VAC14 siRNA (h): sc-72206, VAC14 siRNA (m): sc-72207, VAC14 shRNA Plasmid (h): sc-72206-SH, VAC14 shRNA Plasmid (m): sc-72207-SH, VAC14 shRNA (h) Lentiviral Particles: sc-72206-V and VAC14 shRNA (m) Lentiviral Particles: sc-72207-V.

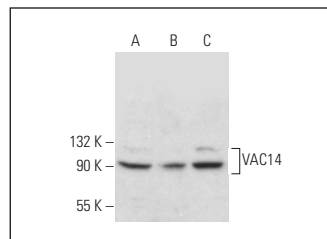
Molecular Weight of VAC14: 88 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, M1 whole cell lysate: sc-364782 or MH-S whole cell lysate: sc-364785.

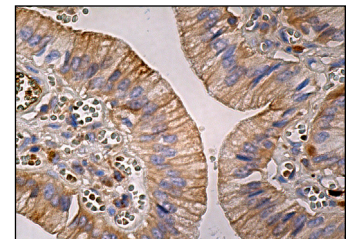
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



VAC14 (F-12): sc-365272. Western blot analysis of VAC14 expression in RAW 264.7 (A), MH-S (B) and M1 (C) whole cell lysates.



VAC14 (F-12): sc-365272. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells.

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.

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