

VAC14 (K-14): sc-109136

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 16, 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.
- Sbrissa, D., et al. 2007. Core protein machinery for mammalian phosphatidylinositol 3,5-bisphosphate synthesis and turnover that regulates the progression of endosomal transport. Novel Sac phosphatase joins the ArPIKfyve-PIKfyve complex. *J. Biol. Chem.* 282: 23878-23891.

CHROMOSOMAL LOCATION

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

SOURCE

VAC14 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of VAC14 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-109136 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

VAC14 (K-14) is recommended for detection of VAC14 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)], 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).

VAC14 (K-14) is also recommended for detection of VAC14 in additional species, including equine, canine, bovine and avian.

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.

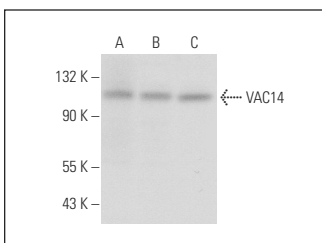
Molecular Weight of VAC14: 88 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



VAC14 (K-14): sc-109136. Western blot analysis of VAC14 expression in Hep G2 (A), K-562 (B) and Jurkat (C) whole cell lysates.

RESEARCH USE

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



Try **VAC14 (C-10): sc-271831** or **VAC14 (F-12): sc-365272**, our highly recommended monoclonal alternatives to VAC14 (K-14).