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Product Information

Anti-VAC14 (C-terminal)
produced in rabbit, affinity isolated antibody

Product Number **SAB4200075**

Product Description

Anti-VAC14 (C-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human VAC14 (GeneID 55697), conjugated to KLH. The corresponding sequence is identical in rat VAC14 and highly conserved (single amino acid substitution) in mouse VAC14. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-VAC14 (C-terminal) specifically recognizes human, mouse, and rat VAC14. The antibody can be used in several immunochemical techniques including immunoblotting (~82 kDa), immunoprecipitation, and immunofluorescence. Detection of the VAC14 band by immunoblotting is specifically inhibited by the VAC14 immunizing peptide.

VAC14 (also known as ArPIKfyve, TAX1BP2, TRX) is a regulator of PIP5K3/PIKfyve, a dual specificity kinase that phosphorylates PtdIns(3)P to generate the housekeeping phospholipid PtdIns(3,5)P_2, that controls multivesicular body morphology, retrograde traffic to the trans-Golgi network, and is critical for neuronal survival.[1,2] VAC14/ArPIKfyve has been shown to associate with and upregulate PIKfyve phosphoinositide-5-kinase activity.[3,4]

The VAC14-PIP5K3- PtdIns(3,5)P_2 pathway is thought to be physiologically linked to insulin activation of glucose transport into the cell. In 3T3-L1 adipocytes, VAC14 and PIP5K3 interaction has been shown to play a critical role in insulin-regulated GLUT4 translocation from intracellular storage compartment to the cell surface and in glucose transport.[5] Knockout of the VAC14 gene in mice results in massive neurodegeneration, and particularly affected are neurons in the midbrain and of the peripheral sensory system.[6] Lesions in neural tissue include large intracellular vacuoles in cell bodies of affected neurons, and large acellular areas indicating extensive neuronal cell death. In addition, selective membrane trafficking pathways, in particular endosome-to-TGN retrograde trafficking, is defective.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at –20 °C. For continuous use, the product may be stored at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1-2 μg/mL is recommended using extracts of mouse brain (S1 fraction) or rat brain (S1 fraction).

Immunoprecipitation: a working antibody amount of 10-15 μg is recommended using A431 cell lysates.

Immunofluorescence: a working antibody concentration of 8-16 μg/mL is recommended using HeLa cells.
Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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4. Jin, N. et al., *EMBO J.*, **27**, 3221-3234 (2008).
5. Ikonomov, O.C. et al., *Exp. Cell Res.*, **313**, 2404-2416 (2007).
6. Zhang, Y. et al., *Proc. Natl. Acad. Sci. USA*, **104**, 17518-17523 (2007).

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