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Product Information

Anti-VILIP-1 (N-terminal)
produced in rabbit, affinity isolated antibody

Product Number: **SAB4200140**

Product Description

Anti-VILIP-1 (N-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the N-terminal of human VILIP-1 (GeneID: 7447), conjugated to KLH. The corresponding sequence is identical in mouse and rat VILIP-1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-VILIP-1 (N-terminal) specifically recognizes human, rat, and mouse VILIP-1. The antibody may be used in several immunochemical techniques including immunoblotting (~22 kDa). Detection of the VILIP-1 band by immunoblotting is specifically inhibited by the VILIP-1 immunizing peptide.

Visinin-like protein-1 (VILIP-1 also known as VSNL1, VILIP, HPCAL3, HUVISL1, HLP3), belongs to a large family of neuronal Ca^{2+} sensor (NCS) proteins. The VILIP subfamily includes VILIP-1, VILIP-2, VILIP-3, hippocalcin, and neurocalcin-δ.[1] NCS proteins possess four EF-hand Ca^{2+}-binding motifs that facilitate their association with lipid bilayers. They are involved in a variety of Ca^{2+}-dependent signal transduction processes in neurons.

VILIP-1 associates with the plasma membrane and Golgi membranes and modulates the signaling of cAMP and cGMP in neuronal cells.[1,2] VILIP-1 is primarily expressed in the brain, particularly in the hippocampus, and has been shown to upregulate the expression of functional $\alpha_4\beta_2$ neuronal nicotinic acetylcholine receptors in hippocampal neurons.[3,4] VILIP-1 modulates the activity of guanylyl cyclase B through clathrin dependent receptor cycling, supporting a role for VILIP-1 in membrane trafficking in the CNS.[2] VILIP-1 has been implicated in the pathology of CNS disorders including Alzheimer's disease, schizophrenia, and as a biomarker in ischemic stroke.[3-5] VILIP-1 expression has also been found to be regulated during induction of hippocampal synaptic plasticity, underlying learning and memory processes.

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, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. 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 1.5-3.0 μg/mL is recommended using rat brain extracts (S1 fraction), mouse brain extracts (S1 fraction), and HEK-293T cell lysates overexpressing human VILIP-1.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Lin, L., et al., *J. Biol. Chem.,* **277**, 41872-41878 (2002).
2. Brackmann, M., et al., *J. Cell Sci.,* **118**, 2495-2505 (2005).
3. Zhao, C., and Braunewell, K.-H., *Neuroscience,* **153**, 1202-1212 (2008).
4. Zhao, C., et al., *Mol. Cell. Neurosci.,* **40**, 280-292 (2009).
5. Laterza, O., et al., *Clin. Chem.*, **52**, 1713-1721 (2006).