

Product Information

Anti-VILIP-1 (C-terminal)

produced in rabbit, affinity isolated antibody

Product Number **SAB4200139**

Product Description

Anti-VILIP-1 (C-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the C-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 (C-terminal) specifically recognizes human, rat, and mouse VILIP-1. The antibody may be used in several immunochemical techniques including immunoblotting (~22 kDa) and immunoprecipitation. 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 $-20\text{ }^{\circ}\text{C}$. For continuous use, store at $2-8\text{ }^{\circ}\text{C}$ for up to one month. For extended storage, freeze in working aliquots at $-20\text{ }^{\circ}\text{C}$. 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. Discard working dilutions if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1.5-3.0 $\mu\text{g/mL}$ is recommended using rat brain extracts (S1 fraction) and HEK-293T cell lysate overexpressing human VILIP-1.

Immunoprecipitation: a working antibody amount of 5-10 μg is recommended using mouse brain extracts (S1 fraction).

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).

VS,ER,KAA,PHC,MAM 07/19-1