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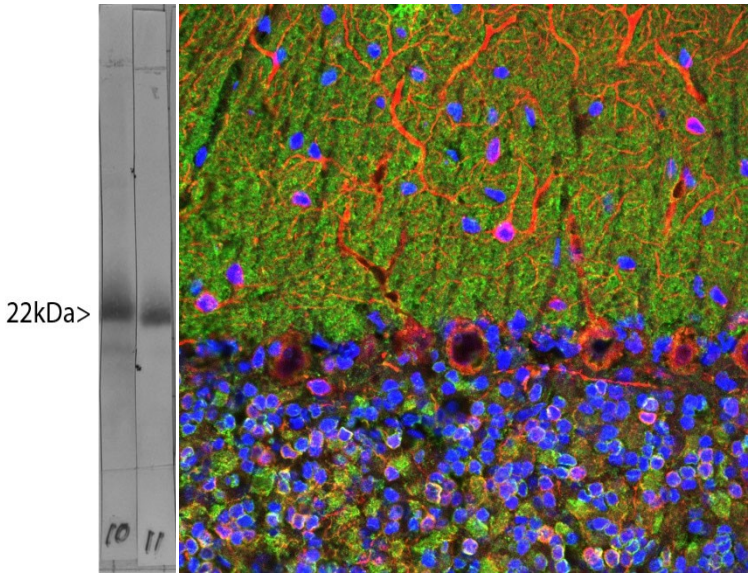
Catalogue MCA-3A9: Monoclonal antibody to Visinin-like protein 1- VSNL1

The Immunogen: Visinin was originally isolated biochemically from chicken retina as a major protein of ~24 kDa on SDS-PAGE (1). Following cloning and sequencing of visinin, several visinin like proteins were discovered by homology screening (2, 3). One of these, Visinin-like protein 1 is a small Calcium binding protein which is very abundant in the nervous system and is found only in neurons, though different neurons have different levels of expression (4, 5). It is particularly concentrated in cerebellar Purkinje cells, and tends to be most abundant in perikarya and dendrites.

The protein was discovered independently by several groups and is therefore also sometimes known as hippocalcin-like protein 3, HLP3, HPCAL3, HUVISL1, VLP-1, VILIP and VILIP-1. The protein belongs to the large superfamily of calmodulin and paravalbumin type proteins which function by binding calcium ions. Calcium binding alters the conformation of these proteins and allow them to interact with other binding partners, the properties of which they may alter. Visinin-like protein 1 has four "EF hand" domains, which are negatively charged helix-turn-helix peptides which are responsible for Calcium binding.

Visinin-like protein 1 is 191 amino acids in size and has a molecular weight on SDS-PAGE of 22 kDa. The protein has recently been suggested to be a useful biomarker of Alzheimer's disease and traumatic brain injury (6, 7, 8). The HGNC name for this protein is VSNL1.

We are OEM suppliers of this antibody- in other words we manufactured it, characterized it and generated the data presented on this page. This antibody is available from several other vendors, but we can supply it more cheaply and we can provide you with more detailed information on the properties of the antibody.



Left: Western blot of bovine cerebellum homogenate stained with MCA-3A9 in lane 11. Note the strong clean band running at 22 kDa. Lane 10 shows the same material stained with our alternate antibody to VSNL1, MCA-2D11, which binds to the same band. **Right:** Confocal image of adult rat cerebellum stained with MCA-3A9 (green), EnCor's chicken polyclonal antibody to MAP2 CPCA-MAP2 (red) and DNA (blue). The MCA-3A9 antibody reveals perikarya and synaptic regions in the neuron rich granular layer (bottom) and synapse rich molecular layer (top). Note that the large prominent Purkinje neurons at the junction of these two layers do not stain with this antibody, in line with the findings of others (4).

Antibody Characteristics: MCA-3A9 is a mouse IgG1 class antibody and is known to react with VSNL1 from human, cow, mouse and rat. Since VSNL1 is highly conserved in primary sequence, it is likely that the antibody is effective on other species also.

Suggestions for use: The antibody solution is affinity purified from tissue culture supernatant and is at a concentration of 1 mg/mL in phosphate buffered saline. The antibody solution can be used at dilutions of 1:500-1:1,000 in immunofluorescence experiments. In western blotting using chemiluminescence it can be used at dilutions of 1:1,000-2,000. Antibody preparation contains 10 mM sodium azide preservative (Link to http://www.encorbio.com/MSDS/azide.htm for Material Safety Data Sheet). Avoid repeated freezing and thawing, store at 4°C or -20°C.

References:

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4. Bernstein HG, Baumann B, Danos P, Diekmann S, Bogerts B, Gundelfinger ED, Braunewell KH. Regional and cellular distribution of neural visinin-like protein immunoreactivities (VILIP-1 and VILIP-3) in human brain. J Neurocytol. 28:655-62 (1999).

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7. Lee JM, Blennow K, Andreasen N, Laterza O, Modur V, Olander J, Gao F, Ohlendorf M, Ladenson JH. The brain injury biomarker VLP-1 is increased in the cerebrospinal fluid of Alzheimer disease patients. Clin. Chem. 10:1617-23 (2008).

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Price and Availability: - We currently supply aliquots of purified antibody at 1 mg/mL. Material is in stock and ready for immediate shipping.

Limitations: This product is for research use only and is not approved for use in humans or in clinical diagnosis.