

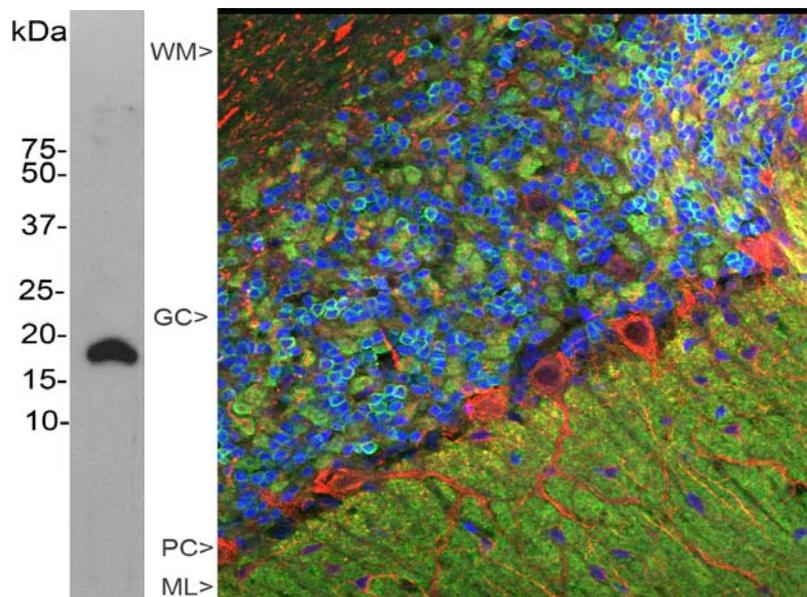
**Catalogue CPCA-VLP1: polyclonal antibody to Visinin-like protein 1- VSNL1**

**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 [parvalbumin](#) 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 rat brain homogenate stained with CPCA-VLP-1. Note the strong clean band running at 18 kDa. **Right:** Confocal image of adult rat cerebellar cortex stained with CPCA-VLP-1 (green), EnCor's polyclonal antibody to NF-M: [RPCA-NF-M](#) (red) and DNA (blue). The CPCA-VLP-1 reveals synapses in the molecular layer (ML) strongly. Synaptic regions are also seen in the granule cell layer (GC). The perikarya of Purkinje cells (PC) and dendrites and axons are revealed with NF-M antibody. Little staining of VLP-1 is seen in the white matter (WM).

**Antibody Characteristics:** Antibody was raised in chicken against recombinant full length His-tagged VLP-1 purified from *E. coli*. and is known to react with VLP-1 from human, cow, mouse and rat. Since VLP-1 is highly conserved in primary sequence, it is likely that the antibody is effective on other species also.

**Suggestions for use:** This antibody is provided as an IgY preparation at about concentration of 17.8 mg/mL. The antibody solution can be used at dilutions of 1:1,000-2,000 in immunofluorescence experiments. In western blotting using chemiluminescence it can be used at dilutions of 1:5,000-10,000. Antibody preparation contains 10 mM sodium azide preservative (<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:**

1. Hatakenaka S, Kuo CH, Miki N. Analysis of a distinctive protein in chick retina during development. [Brain Res. 312:155-63 \(1983\).](#)
2. Kuno T, Kajimoto Y, Hashimoto T, Mukai H, Shirai Y, Saheki S, Tanaka C. cDNA cloning of a neural visinin-like Ca(2+)-binding protein. [Biochem Biophys Res Commun. 184:1219-25 \(1992\).](#)
3. Polymeropoulos MH, Ide S, Soares MB, Lennon GG. Sequence characterization and genetic mapping of the human VSNL1 gene, a homologue of the rat visinin-like peptide RNVP1. [Genomics. 29:273-5 \(1995\).](#)
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 \(1999\).](#)
5. Paterlini M, Revilla V, Grant AL, Wisden W Expression of the neuronal calcium sensor protein family in the rat brain [Neuroscience. 99:205-16 \(2000\)](#)
6. Laterza OF, Modur VR, Crimmins DL, Olander JV, Landt Y, Lee JM, Ladenson JH. Identification of novel brain biomarkers. [Clin. Chem. 9:1713-21 \(2006\)](#)
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 \(2008\).](#)
8. Tarawneh R, D'Angelo G, Macy E, Xiong C, Carter D, Cairns NJ, Fagan AM, Head D, Mintun MA, Ladenson JH, Lee JM, Morris JC, Holtzman DM. Visinin-like protein-1: diagnostic and prognostic biomarker in Alzheimer disease. [Ann Neurol. 70:274-85 \(2011\) doi: 10.1002/ana.22448.](#)

**Price and Availability:** - We currently supply 100 µL aliquots for \$200. 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.

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