



## Product Datasheet

<b>Product Name</b>	Parvalbumin Rat Recombinant
<b>Cata No</b>	CB501019
<b>Source</b>	<i>Escherichia Coli.</i>
<b>Synonyms</b>	Pvalb, Pva, PALB1, Parvalbumin.

### Description

Parvalbumin is calcium binding albumin protein, which binds two calcium ions. Parvalbumin has 3 EF hand motifs and is structurally related to calmodulin and troponin C. Pvalb is localized in fast-contracting muscles, where its levels are highest, in the brain and some endocrine tissues. Parvalbumin is found in GABAergic interneurons in the nervous system, primarily expressed by chandelier and basket cells in the cortex. Parvalbumin interneurons' connections are generally perisomatic (surrounding the cell body of neurons). In the hippocampus, PV+ interneurons are subdivided into basket, axo-axonic, bistratified, and oriens-lacunosum moleculare (O-LM) cells, each subtype targeting distinct domains of pyramidal cells. The majority of the Parvalbumin interneurons are fast-spiking, and are thought to generate gamma waves recorded in EEG. Pvalb -expressing interneurons represent roughly 25% of GABA cells in the primate DLPFC. Decreased Parvalbumin and GAD67 expression was found in PV+ GABAergic interneurons in schizophrenia. Parvalbumin is identified as an allergen causing seafood allergy. Pvalb may have evolved from an ancestral four domain calcium binding protein. Recombinant Rat Parvalbumin produced in E.Coli. The Rat Parvalbumin is purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

### Purity

Greater than 90% as determined by SDS-PAGE.

### Formulation

The protein was lyophilized from a concentrated solution (1mg/ml) containing 10mM Tris-base, 70mM NaCl, 1mM EDTA and 1mM b-mercaptoethanol, pH 7.4.

### Reconstitution

It is recommended to reconstitute the lyophilized Parvalbumin in sterile 18MΩ-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

### Stability

Lyophilized Parvalbumin although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Parvalbumin should be stored at 4°C between 2-7 days and for future use below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please prevent freeze-thaw cycles.**

### Applications

The Parvalbumin can be used for immunoblots, absorption experiments in immunohistochemistry, radioimmunoassay and intracellular injection. For fluid-phase adsorption in immunohistochemistry we suggest the following procedure:

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# California Bioscience

83103 Avenue 48, Ste.1B #204

Coachella, CA 92236 USA

Phone : +1.6268339877

Email : [info@cali-bio.com](mailto:info@cali-bio.com)

A- Dilute 1  $\mu$ l of the monoclonal antibody 235 (Swant) against parvalbumin in 5 ml of the usual buffer for immunohistochemistry (final dilution 1:5'000).

B- Add 1 $\mu$ g of the Parvalbumin to 1ml of the diluted antibody solution and mix well.

C- Incubate for at least 6 hours in the cold.

D- Apply to tissue-sections and incubate for 3 days

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D- Complete the immunohistochemical reaction as usual (biotinylated second antibody, ABC-complex, DAB).

As a result, the immunostaining should be strongly reduced or even completely prevented.

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