



Rte Ancienne Papeterie
PO Box 327,
CH-1723 Marly 1 (Switzerland)

Fax: +41 91 825 76 08
info@swant.com
www.swant.com

Product Description Rabbit anti Parvalbumin

PV 27

Straight antiserum Classic!

Product: Rabbit anti-parvalbumin

Code No: PV 27

Lot No.: 2014

Form: Lyophilized antiserum (no preservatives).

Quantity: 200 µl / 500 µl / 1 ml

Reconstitution: with 200 µl / 500 µl / 1 ml bi-distilled water (depending on the volume you ordered).

Description

This antiserum was produced against recombinant rat parvalbumin. It cross-reacts with many other species, humans included. It can be used in immunohistochemistry (Fig. 1) and for immunoblotting (Fig. 2).

Background

Calcium binding-proteins represent a family of small, acidic proteins equipped with peculiar cavities which accept Ca^{2+} with high selectivity (1). There are two types of calcium binding-proteins, "trigger" and "buffer" proteins. Those of the "trigger"-type (e.g. calmodulin and troponin-C) act by changing shape upon binding Ca^{2+} . This distortion exposes regions on the surface of the protein, which interact with surrounding target molecules, altering their activity. The calcium binding-protein of the "buffer"-type are conceived as a system which is in charge of controlling the Ca^{2+} concentration inside cells. Parvalbumin occurs mainly in subpopulations of nerve cells (2) and in fast muscle fibers (3). It might confer on these cells peculiar skills in the handling of calcium-ions.

Immunohistochemistry on parvalbumin knock-out mice

Antiserum PV27 labels a subpopulation of neurons in the normal brain with high efficiency (Fig. 1a), but does not stain the brain of parvalbumin knock-out mice (Fig. 1b).

Immunoblot

The antiserum PV27 recognizes the antigen at 12 kDa after SDS-gel electrophoretic separation of brain extracts. Therefore, antiserum PV27 can be used in immunoblots (Fig. 2).

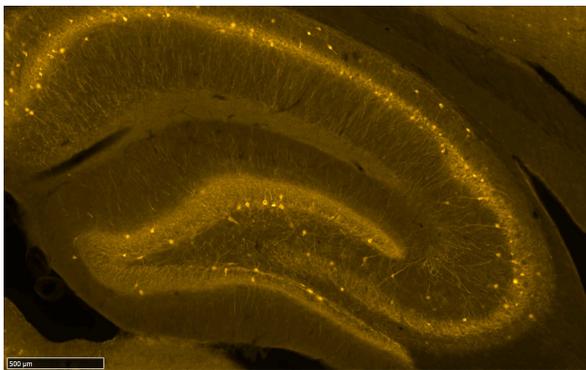


Fig 1a: Immunofluorescent staining with antiserum PV 27 in the hippocampus of a C57/Bl6 mouse. Notice the strong staining of interneurons in various layers. X100



Fig 1b: Absence of specific immunohistochemical staining with antiserum PV 27 in the hippocampus of a parvalbumin knock-out mouse (4). X 100

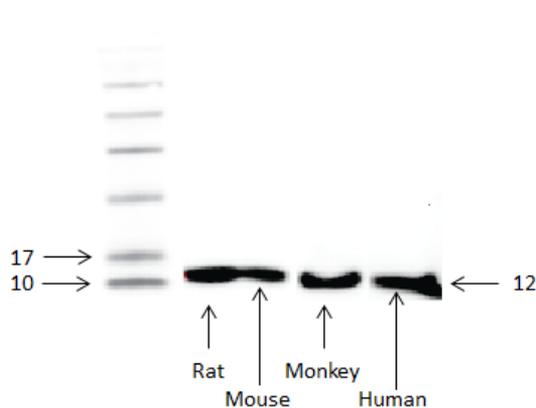


Fig. 2a. The antiserum PV27 recognizes a protein of 12 kDa, in brain extracts of these four species.

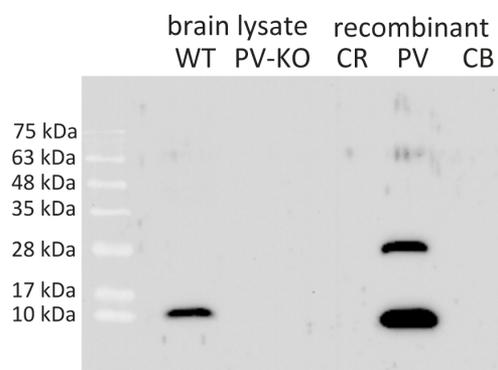


Fig 2B: The antiserum PV27 recognizes parvalbumin in the brain extract of a C57/Bl6 mouse, but not in a parvalbumin knock out mouse. It does also not cross react with calretinin or calbindin".

Working dilutions

Immunohistochemistry: 1:5'000 - 1:10'000 with the avidin-biotin method.

Immunoblots: 1:500 - 1:1'000

We recommend that the optimal dilutions be determined by titration experiments.

Storage

Reconstitute with 200 µl bi-distilled water and make small portions upon arrival (e.g. 2-5 µl). For long storage, keep at - 80°C (or at least - 20°C). For continuous use keep the diluted antiserum at 4°C (with 0.01% Na-azide). Avoid repeated freezing and thawing.

References

1. Kretsinger R.H. (1981) Neurosci. Res. Progr. Bull. 19/8, MIT-Press
2. Celio M.R., Heizmann C.W. (1981) Nature 293: 300-302
3. Celio M.R., Heizmann C.W. (1982) Nature 297:504-506
4. Schwaller B., et al. (1999) Am. J. Physiol. 276. C395-403
5. *Filice F, Celio M.R., Szabolcsi V. (2017) JCN, in press