

Parvalbumin

Cat.No. 195 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 5000 up to 1 : 10000 (AP staining) (see remarks) IP: yes ICC: not tested yet IHC: 1 : 100 up to 1 : 500 IHC-P/FFPE: 1 : 500
Immunogen	Recombinant protein corresponding to AA 1 to 133 from rat Parvalbumin
Reactivity	Reacts with: human (P20472), rat (P02625), mouse (P32848), grasshopper. Other species not tested yet.
Specificity	Specific for parvalbumin.
matching control	195-OP
Remarks	WB: Due to its small size a tricine gel is recommended.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Parvalbumin is a small, acidic, calcium binding protein and belongs to the family of EF hand proteins. The protein is found in skeletal muscle and the brain of vertebrates where it locates to a specific population of GABAergic interneurons. This subset of neurons may contribute to maintaining the balance between excitation and inhibition in the cortex and the hippocampus.

Selected References SYSY Antibodies

Transient oxytocin signaling primes the development and function of excitatory hippocampal neurons.
Ripamonti S, Ambrozkiwicz MC, Guzzi F, Gravati M, Biella G, Bormuth I, Hammer M, Tuffy LP, Sigler A, Kawabe H, Nishimori K, et al.
eLife (2017) 6: . **ICC; tested species: mouse**

BDNF Depresses Excitability of Parvalbumin-Positive Interneurons through an M-Like Current in Rat Dentate Gyrus.
Nieto-Gonzalez JL, Jensen K
PloS one (2013) 8(6): e67318. **IHC**

Absence of aquaporin-4 in skeletal muscle alters proteins involved in bioenergetic pathways and calcium handling.
Basco D, Nicchia GP, D'Alessandro A, Zolla L, Svelto M, Frigeri A
PloS one (2011) 6(4): e19225. **WB; tested species: mouse**

The neuropathological investigation of the brain in a monkey model of autism spectrum disorder with ABCA13 deletion.
Iritani S, Torii Y, Habuchi C, Sekiguchi H, Fujishiro H, Yoshida M, Go Y, Iriki A, Isoda M, Ozaki N
International journal of developmental neuroscience : the official journal of the International Society for Developmental Neuroscience (2018) : . **IHC; tested species: monkey**

Ultrafast optogenetic stimulation of the auditory pathway by targeting-optimized Chronos.
Keppeler D, Merino RM, Lopez de la Morena D, Bali B, Huet AT, Gehrt A, Wrobel C, Subramanian S, Dombrowski T, Wolf F, Rankovic V, et al.
The EMBO journal (2018) : . **IHC; tested species: rat**

Damaged Neocortical Perineuronal Nets Due to Experimental Focal Cerebral Ischemia in Mice, Rats and Sheep.
Härtig W, Mages B, Aleithe S, Nitzsche B, Altmann S, Barthel H, Krueger M, Michalski D
Frontiers in integrative neuroscience (2017) 11: 15. **IHC; tested species: mouse, rat**

Intravenous infusion of human bone marrow mesenchymal stromal cells promotes functional recovery and neuroplasticity after ischemic stroke in mice.
Sammali E, Alia C, Vegliante G, Colombo V, Giordano N, Pischietta F, Boncoraglio GB, Barilani M, Lazzari L, Caleo M, De Simoni MG, et al.
Scientific reports (2017) 7(1): 6962. **IHC; tested species: mouse**

Deletion of CTNNB1 in inhibitory circuitry contributes to autism-associated behavioral defects.
Dong F, Jiang J, McSweeney C, Zou D, Liu L, Mao Y
Human molecular genetics (2016) 25(13): 2738-2751. **IHC**

Abolished perineuronal nets and altered parvalbumin-immunoreactivity in the nucleus reticularis thalami of wildtype and 3xTg mice after experimental stroke.
Härtig W, Appel S, Suttikus A, Grosche J, Michalski D
Neuroscience (2016) 337: 66-87. **IHC**

Repeated Blockade of NMDA Receptors During Adolescence Impairs Reversal Learning and Disrupts GABAergic Interneurons in Rat Medial Prefrontal Cortex.
Li JT, Su YA, Wang HL, Zhao YY, Liao XM, Wang XD, Si TM
Frontiers in molecular neuroscience (2016) 9: 17. **WB**

Selected General References

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Neuroscience (2007) 149(1): 131-43.

Expression patterns of calretinin, calbindin and parvalbumin and their colocalization in neurons during development of Macaca monkey retina.
Hendrickson A, Yan YH, Erickson A, Possin D, Pow D
Experimental eye research (2007) 85(5): 587-601.

Ultrastructural study of gap junctions between dendrites of parvalbumin-containing GABAergic neurons in various neocortical areas of the adult rat.
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Neuroscience (2003) 120(1): 5-20.

Calcium-binding protein parvalbumin-immunoreactive neurons in the rat olfactory bulb. 2. Postnatal development.
Kosaka K, Heizmann CW, Kosaka T
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Immunocytochemical localization of the plasma membrane calcium pump, calbindin-D28k, and parvalbumin in Purkinje cells of avian and mammalian cerebellum.
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Proceedings of the National Academy of Sciences of the United States of America (1993) 90(24): 11949-53.