

Calbindin D28k

Cat.No. 214 002; 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 : 1000 up to 1 : 5000 (AP staining) IP: yes ICC: 1 : 5000 IHC: 1 : 500 IHC-P/FFPE: 1 : 200
Immunogen	Recombinant protein corresponding to AA 3 to 251 from human CalbindinD28k (UniProt Id: P05937)
Reactivity	Reacts with: human (P05937), rat (P07171), mouse (P12658), monkey, ape, cow, chicken, zebrafish, turtle, grasshopper. Other species not tested yet.
Specificity	Specific for calbindin D28k.
matching control	214-OP

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

Two isoforms of the vitamin D-dependent Ca-binding proteins have been described so far: **calbindin D28k**, also referred to as CALB 1, D-28k, and CAB 27, and calbindin D29k, also known as calretinin. These proteins are expressed in cells that have to handle a high calcium influx such as brain, bone, teeth, inner ear and others. Calbindins are believed to regulate cellular activity by suppressing or buffering intracellular calcium.

Selected References SYSY Antibodies

- Polylaminin recognition by retinal cells.
 Hochman-Mendez C, Lacerda de Menezes JR, Sholl-Franco A, Coelho-Sampaio T
Journal of neuroscience research (2014) 92(1): 24-34. **ICC; tested species: rat**
- NGL-2 regulates pathway-specific neurite growth and lamination, synapse formation, and signal transmission in the retina.
 Soto F, Watkins KL, Johnson RE, Schottler F, Kerschensteiner D
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 33(29): 11949-59. **IHC**
- Permanent Whisker Removal Reduces the Density of c-Fos+ Cells and the Expression of Calbindin Protein, Disrupts Hippocampal Neurogenesis and Affects Spatial-Memory-Related Tasks.
 Gonzalez-Perez O, López-Virgen V, Ibarra-Castaneda N
Frontiers in cellular neuroscience (2018) 12: 132. **IHC; tested species: mouse**
- Pharmacological targeting of GSK-3 and NRF2 provides neuroprotection in a preclinical model of tauopathy.
 Cuadrado A, Kügler S, Lastres-Becker I
Redox biology (2018) 14: 522-534. **IHC; tested species: mouse**
- Abolished perineuronal nets and altered parvalbumin-immunoreactivity in the nucleus reticularis thalami of wildtype and 3xTg mice after experimental stroke.
 Härtig W, Appel S, Suttkus A, Grosche J, Michalski D
Neuroscience (2016) 337: 66-87. **IHC**
- Chronic mild stress modulates 5-HT1A and 5-HT2A receptor expression in the cerebellar cortex of NC/Nga atopic-like mice.
 Rasul A, Johansson B, Lonne-Rahm SB, Nordlind K, Theodorsson E, El-Nour H
Archives of dermatological research (2013) 305(5): 407-13. **IHC**
- Probing the functional equivalence of otoferlin and synaptotagmin 1 in exocytosis.
 Reisinger E, Bresee C, Neef J, Nair R, Reuter K, Bulankina A, Nouvian R, Koch M, Bückers J, Kastrup L, Roux I, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2011) 31(13): 4886-95. **IHC; tested species: mouse**

Selected General References

- Influence of the "open field" exposure on calbindin D28K, calretinin, and parvalbumin containing cells in the rat midbrain - developmental study.
 Klejbor I, Ludkiewicz B, Domaradzka-Pytel B, Spodnik JH, Dziewiatkowski J, Moryś J
Journal of physiology and pharmacology : an official journal of the Polish Physiological Society (2006) 57(1): 149-64.
- Calbindin D-28 and microtubule-associated protein-2: their use as sensitive immunohistochemical markers of cerebellar neurotoxicity in a regulatory toxicity study.
 Haworth R, McCormack N, Selway S, Pilling AM, Williams TC
Experimental and toxicologic pathology : official journal of the Gesellschaft fur Toxikologische Pathologie (2006) 57(5-6): 419-26.
- Mutational analysis of dendritic Ca²⁺ kinetics in rodent Purkinje cells: role of parvalbumin and calbindin D28k.
 Schmidt H, Stiebel KM, Racay P, Schwaller B, Eilers J
The Journal of physiology (2003) 551(Pt 1): 13-32.
- Calbindin in cerebellar Purkinje cells is a critical determinant of the precision of motor coordination.
 Barski JJ, Hartmann J, Rose CR, Hoebeek F, Mörl K, Noll-Hussong M, De Zeeuw Cl, Konnerth A, Meyer M
The Journal of neuroscience : the official journal of the Society for Neuroscience (2003) 23(8): 3469-77.
- 'New' functions for 'old' proteins: the role of the calcium-binding proteins calbindin D-28k, calretinin and parvalbumin, in cerebellar physiology. Studies with knockout mice.
 Schwaller B, Meyer M, Schiffmann S
Cerebellum (London, England) (2002) 1(4): 241-58.
- Synthesis of calbindin-D28K during mineralization in human bone marrow stromal cells.
 Faucheuix C, Bareille R, Amedee J
The Biochemical journal (1998) 333 (Pt 3): 817-23.
- Calbindin-D in peripheral nerve cells is vitamin D and calcium dependent.
 Lee YS, Taylor AN, Reimers TJ, Edelstein S, Fullmer CS, Wasserman RH
Proceedings of the National Academy of Sciences of the United States of America (1987) 84(20): 7344-8.