

Calbindin D28k

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Cat.No. 214 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Azide was added before lyophilization. For reconstitution add 100 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: yes ICC: 1 : 500 IHC: 1 : 200 up to 1 : 500 IHC-P/FFPE: 1 : 500
Clone	351C10
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 3 to 251 from human CalbindinD28k (UniProt Id: P05937)
Epitop	Epitop: AA 3 to 251 from human CalbindinD28k (UniProt Id: P05937)
Reactivity	Reacts with: human (P05937), rat (P07171), mouse (P12658), zebrafish, grasshopper. Other species not tested yet.
Specificity	Specific for calbindin D28k.
matching control	214-0P

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

Combinatorial analysis of calcium-binding proteins in larval and adult zebrafish primary olfactory system identifies differential olfactory bulb glomerular projection fields.

Kress S, Biechl D, Wullmann MF
Brain structure & function (2015) 220(4): 1951-70. **IHC, WB; tested species: zebrafish**

Inhibition of West Nile virus by calbindin-D28k.

Siddharthan V, Wang H, Davies CJ, Hall JO, Morrey JD
PloS one (2014) 9(9): e106535. **FACS**

Re-evaluation of neuronal P2X7 expression using novel mouse models and a P2X7-specific nanobody.

Kaczmarek-Hajek K, Zhang J, Kopp R, Grosche A, Rissiek B, Saul A, Bruzzone S, Engel T, Jooss T, Krautloher A, Schuster S, et al.
eLife (2018) 7: . **IHC; tested species: mouse**

Functional expression of calcium-permeable canonical transient receptor potential 4-containing channels promotes migration of medulloblastoma cells.

Wei WC, Huang WC, Lin YP, Becker EBE, Ansorge O, Flockerzi V, Conti D, Cenacchi G, Glitsch MD
The Journal of physiology (2017) 595(16): 5525-5544. **IHC; tested species: mouse**

Facilitation of Contextual Fear Extinction by Orexin-1 Receptor Antagonism Is Associated with the Activation of Specific Amygdala Cell Subpopulations.

Flores A, Herry C, Maldonado R, Berrendero F
The international journal of neuropsychopharmacology (2017) 20(8): 654-659. **IHC; tested species: mouse**

Characterization of a novel subtype of hippocampal interneurons that express corticotropin-releasing hormone.

Hooper A, Maguire J
Hippocampus (2016) 26(1): 41-53. **IHC**

Evidence for a Clathrin-independent mode of endocytosis at a continuously active sensory synapse.

Fuchs M, Brandstätter JH, Regus-Leidig H
Frontiers in cellular neuroscience (2014) 8: 60. **IHC; tested species: rat**

Rescue of bilirubin-induced neonatal lethality in a mouse model of Crigler-Najjar syndrome type I by AAV9-mediated gene transfer.

Bortolussi G, Gentili L, Baj G, Giraudi P, Bellarosa C, Giacca M, Tiribelli C, Muro AF
FASEB journal : official publication of the Federation of American Societies for Experimental Biology (2012) 26(3): 1052-63. **IHC; tested species: mouse**

Probing the functional equivalence of otoferlin and synaptotagmin 1 in exocytosis.

Reisinger E, Bresee C, Neef J, Nair R, Reuter K, Bulankina A, Novian 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 für 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, Stiefel 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 CI, 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.

Faucheux C, Bareille R, Amedee J
The Biochemical journal (1998) 333 (Pt 3): 817-23.