abcam

ab208377

Alexa Fluor® 488 Anti-Calbindin antibody [EP3478]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP3478
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse

Dilution info	1/100
Notes	This product gave a positive signal in Neuro-2a cells fixed with 4% formaldehyde (10 min)

Expected

Species	Human, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CALB1

Function	Buffers cytosolic calcium. May stimulate a membrane Ca(2+)-ATPase and a 3',5'-cyclic nucleotide phosphodiesterase.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Calbindin also known as calbindin-D28k is a calcium-binding protein with a molecular mass of approximately 28 kDa. This target is mainly expressed in the neurons of the brain such as in the cerebellum and hippocampus as well as in the kidneys and intestine. Calbindin plays a mechanical role in binding and buffering intracellular calcium ions which is important for the regulation of calcium-dependent signaling pathways. Researchers often use techniques like Calbindin IHC (immunohistochemistry) and ELISA to study its distribution and presence within tissues.
Biological function summary	Calbindin contributes to cellular homeostasis by managing intracellular calcium levels. It does not appear to be part of a larger protein complex but operates independently. This protein helps to protect neurons from calcium overload potentially safeguarding against excitotoxicity which occurs when neurons die from excessive stimulation. Calbindin's function as a calcium buffer is of particular importance in maintaining neuron function and survival in areas with high neuronal activity.
Pathways	Calbindin has a significant role in the calcium signaling pathway and is also involved in the vitamin D pathway. The calcium signaling pathway is vital for many cellular processes like muscle contraction neurotransmitter release and gene expression. The vitamin D pathway regulates calcium and phosphate homeostasis in the body. Calbindin's relationship with proteins such as calmodulin and parvalbumin both involved in calcium regulation highlights its importance in maintaining cellular functions.
Associated diseases and disorders	Abnormal Calbindin expression has been observed in conditions like epilepsy and Parkinson's disease. In epilepsy its decreased expression can impact the ability of neurons to regulate calcium properly leading to increased vulnerability to seizures. In Parkinson's disease altered Calbindin levels have been associated with the selective vulnerability of dopamine neurons. These diseases highlight the connection between Calbindin and proteins like alpha-synuclein known for its role in Parkinson's pathology emphasizing the need to understand its contribution to disease mechanisms.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

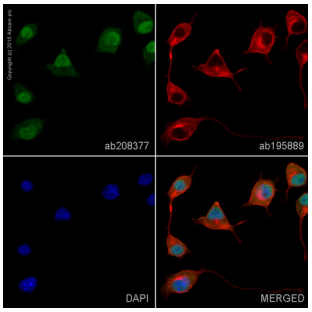
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

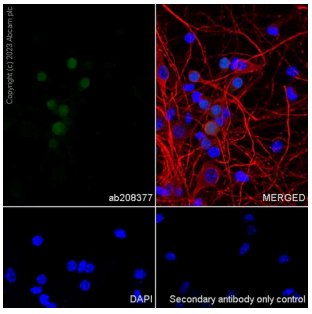
2 product images



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-Calbindin antibody [EP3478] (ab208377)

Calbindin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Calbindin antibody

ab208377 staining Calbindin in Neuro-2a cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab208377 at 1/100 dilution (shown in green) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-Calbindin antibody [EP3478] (ab208377)

Calbindin Immunocytochemistry/ Immunofluorescence staining of Mouse hippocampal primary neural/glia cell using rabbit Anti-Calbindin antibody

ab208377 staining Mouse hippocampal primary neural/glia cell. The cells were fixed with 4% paraformaldehyde, permeabilized with 0.1% Triton X-100 and then counterstained using ab11267 Anti-MAP2 antibody [HM-2] at a 1/200 dilution and ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preabsorbed at a 1/1000 dilution. The cells were then incubated with ab208377 at 1/50 dilution (shown in green) Nuclear DNA was labelled with DAPI (shown in blue).

Confocal image showing positive staining in subsets of mouse hippocampal primary neuron. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.