abcam

ab93606

Anti-CACNB2 antibody [N8B/1]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine)
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	N8B/1
Purification technique	Affinity purification Protein G
Specificity	No cross reactivity against CAVB1, CAVB3 and CAVB4
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	Antigen retrieval is not essential but may optimise staining.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Expected

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

Flow Cyt

Tested

Species	Human
Dilution info	1 µL for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1-10 µg/mL
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-Fr

Expected

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

Target data

See full target information Voltage-dependent L-type calcium channel subunit beta-2

Storage

Shipped at conditions	Blue Ice

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

Notes

The clone number has been updated from S8b-1 to N8B/1, both clone numbers name the same antibody clone.

Supplementary info

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

Activity summary	CACNB2 also known as the calcium channel voltage-dependent beta 2 subunit is a part of the high voltage-gated calcium channel complex. The protein encoded by CACNB2 gene has a mass of approximately 66 kDa. It exists within many tissues including cardiac tissue skeletal muscle and the brain. This protein plays a role in modulating the activity of the channel by interacting with both alpha and gamma subunits influencing calcium ion influx.
Biological function summary	CACNB2 participates in controlling calcium channel activity which is significant for various cellular processes. It forms a part of the channel complex that helps stabilize the arrangement and activity of the pore-forming alpha subunit. Through this CACNB2 affects processes such as muscle contraction neurotransmitter release and gene expression. Interactions of CACNB2 subunits help regulate the amplitude and kinetics of calcium currents important for cellular communication.
Pathways	CACNB2 regulates the L-type calcium channel pathway integral to the excitation-contraction coupling in cardiac and muscle cells. It associates with other calcium channel subunits like CACNA1C modulating calcium channel functionality. In the MAPK signaling pathway CACNB2 indirectly influences cellular responses to various stimuli. This protein provides essential inputs to these pathways by affecting calcium ion flow into cells which is critical for their activation and operation.
Associated diseases and disorders	CACNB2 exhibits a connection to conditions such as cardiac arrhythmias and epilepsy. Its role in calcium channel functioning relates to arrhythmogenic activities in cardiac cells when abnormalities in ion flow occur. There is also evidence linking CACNB2 to epilepsy where disrupted calcium flow affects neuronal firing patterns. Other related proteins like CACNA1C also play a part in these disorders highlighting the complex interactions between voltage-gated calcium channel components in 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.

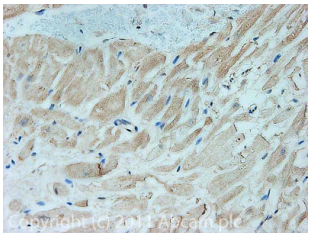
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
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5 product images

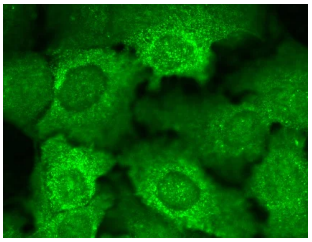


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CACNB2 antibody [N8B/1] (ab93606)

CACNB2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-CACNB2 antibody

IHC image of ab93606 staining in Human Heart formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab93606, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

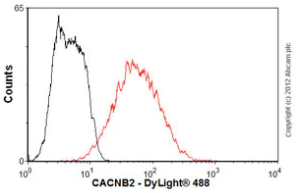
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry/ Immunofluorescence - Anti-CACNB2 antibody [N8B/1] (ab93606)

CACNB2 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-CACNB2 antibody

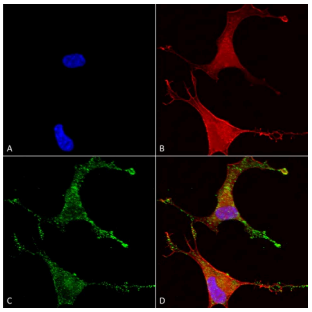
Cold 100% methanol-fixed HaCaT (human keratinocyte cell line) cells stained for CACNB2 (green) using ab93606 at 1/100 dilution in ICC/IF.
Secondary Antibody: FITC Goat Anti-Mouse at 1/50 dilution for 1 hour at room temperature.



Flow Cytometry - Anti-CACNB2 antibody [N8B/1] (ab93606)

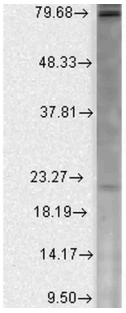
CACNB2 Flow Cytometry staining using mouse Anti-CACNB2 antibody

Overlay histogram showing SH-SY5Y cells stained with ab93606 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab93606, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SH-SY5Y cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Anti-CACNB2 antibody [N8B/1] (ab93606)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed Neuroblastoma cells (SH-SY5Y) labeling CACNB2 with ab93606 at 1/50 dilution. Secondary antibody: AlexaFluor® 488 at 1/1000 dilution. (A) Hoechst (blue) nuclear stain. (B) Phalloidin-iFluor 647 (red) F-Actin stain. (C) Cav beta 2 Antibody (D) Composite.



Western blot - Anti-CACNB2 antibody [N8B/1] (ab93606)

CACNB2 Western blot staining of Human Cell line lysates using mouse Anti-CACNB2 antibody

All lanes:
Western blot - Anti-CACNB2 antibody [N8B/1] (ab93606) at 1/100 dilution

All lanes:
Human Cell line lysates at 15 µg

Secondary

All lanes:
Sheep Anti-Mouse IgG: HRP

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