abcam

ab78408

Anti-Connexin 45/GJA7/Cx45 antibody [5B9.2]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.6 Preservative: 0.1% Sodium azide Constituents: PBS, 1.45% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	5B9.2
Purity	Tissue culture supernatant
Epitope	Near C terminal, cytoplasmic.
Purification notes	Purified from TCS.

Reactivity data

ICC

Tested

Species	Rat
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Mouse, Dog, Pig, Chinese hamster
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Mouse, Dog, Pig, Chinese hamster
Dilution info	-
Notes	-

Target data

See full target information GJC1

Function	Structural component of the gap junction, a specialized intercellular structure consisting of a cluster of closely packed pairs of transmembrane channels, the

connexons, that allow passage of small molecules and electrical signals between neighboring cells. Forms homotypic and heterotypic channels gated by transjunctional voltage (By similarity). Involved in intercellular innate immune signaling. Mediates translocation of 2',3'-cGAMP and 2',5'-oligoadenylates (2-5A) second messengers from virus-infected cells to macrophages and uninfected neighboring cells to propagate and amplify the antiviral immune response (PubMed:24077100, PubMed:31992625, PubMed:40010341).

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
Storage information	Avoid freeze / thaw cycle

Notes

This product was changed from ascites to tissue culture supernatant on 17th May 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

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

Activity summary	Connexin 45 also known as Cx45 or GJA7 is a gap junction protein that enables cellular communication by forming channels between adjacent cells. The channels regulate ion and small molecule passage which is critical for maintaining cellular homeostasis. Cx45 has a molecular weight of approximately 45 kDa. This protein expresses in various tissues including the heart brain and smooth muscle indicating its diverse physiological roles.
Biological function summary	Cx45 plays an integral role in intercellular communication by participating in the formation of gap junction channels. It functions as part of the connexin family forming homomeric and heteromeric hemichannels that dock with hemichannels on adjacent cells. This connection is essential for electronic coupling and synchronous activity especially in the cardiac and neural tissues where timely communication is necessary for function.

Pathways	Cx45 contributes significantly to the cardiac conduction system and neural transmission pathways. In cardiac tissues it coordinates with connexin 43 to control electrical signal propagation and regulate heartbeat. Cx45 participates in neural pathways by forming functional networks that support synaptic transmission and neuronal synchronization thereby interacting with proteins like connexin 36.
Associated diseases and disorders	Mutations or dysregulation of Cx45 associate with cardiac arrhythmias and neurological disorders like epilepsy. In the heart Cx45 along with connexin 43 is essential for maintaining normal cardiac rhythm and disturbances can lead to arrhythmogenic conditions. In the nervous system Cx45 dysfunction can affect neural circuitry contributing to epileptic seizures. It is vital to investigate the role of Cx45 in these conditions for developing therapeutic strategies.

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

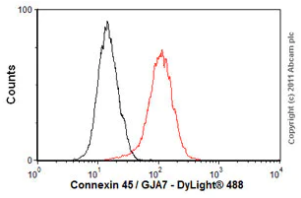
We do not recommend this combination. It is not covered by our product promise.

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.

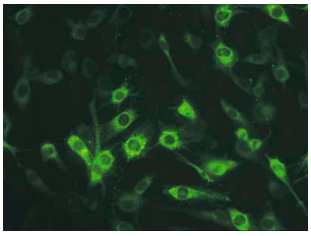
2 product images



Flow Cytometry - Anti-Connexin 45/GJA7/Cx45 antibody [5B9.2] (ab78408)

Connexin 45/GJA7/Cx45 Flow Cytometry staining using mouse Anti-Connexin 45/GJA7/Cx45 antibody

Overlay histogram showing HeLa cells stained with ab78408 (red line). The cells were fixed with 80% methanol (5 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 followed by the antibody (ab78408, 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 result in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized in 0.1% PBS-Tween for 20 min used under the same conditions.
This image was generated using the ascites version of the product.



Immunocytochemistry - Anti-Connexin 45/GJA7/Cx45 antibody [5B9.2] (ab78408)

Connexin 45/GJA7/Cx45 Immunocytochemistry staining using mouse Anti-Connexin 45/GJA7/Cx45 antibody

ab78408 staining Connexin 45/GJA7/Cx45 transfected rat C6 cells by Immunocytochemistry.
This image was generated using the ascites version of the product.

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