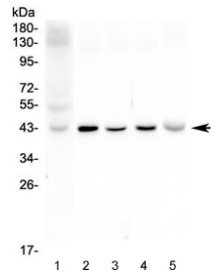
# Connexin 43 Antibody / Gap Junction Protein Antibody (R30200)

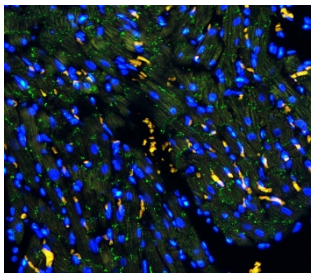
| Catalog No. | Formulation | Size |
|---|---|---|
| R30200 | 0.5mg/ml if reconstituted with 0.2ml sterile DI water | 100 ug |

**Bulk quote request**

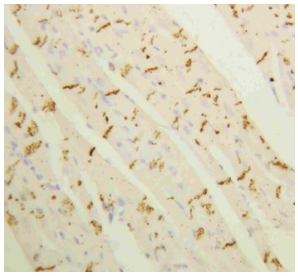
| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Antigen affinity purified |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit IgG |
| **Purity** | Antigen affinity |
| **Buffer** | Lyophilized from 1X PBS with 2% Trehalose |
| **UniProt** | P17302 |
| **Applications** | Western blot: 0.5-1ug/ml<br>Immunhistochemistry (FFPE): 2-5ug/ml<br>Immunofluorescence (FFPE): 5ug/ml |
| **Limitations** | This Connexin 43 Antibody / Gap Junction Protein Antibody is available for research use only. |



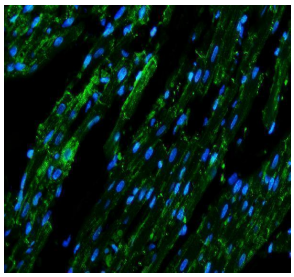

Connexin 43 Antibody Multi-Species WB. Western blot testing of 1) human placenta, 2) rat brain, 3) rat heart, 4) mouse brain, and 5) mouse heart lysates with Connexin 43 antibody at 0.5 ug/ml. A prominent immunoreactive band is detected at approximately 43 kDa in all five samples, consistent with the predicted molecular weight of Connexin 43. The results demonstrate specific detection of this gap junction protein, which mediates direct intercellular communication by forming channels that coordinate electrical and metabolic coupling between neighboring cells.



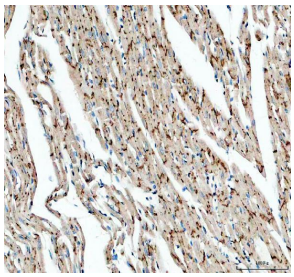
Connexin 43 Antibody Rat Heart IF. Immunofluorescent staining of FFPE rat heart tissue with Connexin 43 antibody (green) at 1 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 6, 10 mM citrate buffer for 10â€“20 minutes and allowing them to cool prior to staining. Nuclei are counterstained with DAPI (blue). Connexin 43 immunoreactivity is observed in a punctate distribution along cardiomyocyte cell borders, consistent with the expected localization of this gap junction protein that forms intercellular channels essential for electrical coupling and coordinated cardiac contraction.



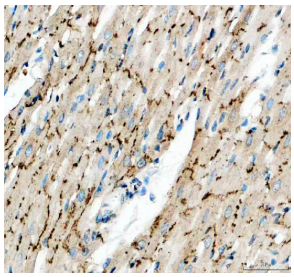
Connexin 43 Antibody Rat Heart IHC. Immunohistochemical staining of FFPE rat heart tissue with Connexin 43 antibody at 1 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 6, 10 mM citrate buffer for 10â€“20 minutes and allowing them to cool prior to staining. Connexin 43 immunoreactivity is observed in a punctate pattern at cardiomyocyte cell borders, consistent with the expected localization of this gap junction protein that forms intercellular channels essential for electrical coupling and synchronized cardiac contraction. Cell nuclei are counterstained with hematoxylin (blue).



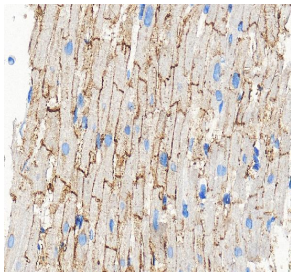
Connexin 43 Antibody Cardiomyocyte Gap Junction IF. Immunofluorescent staining of FFPE rat heart tissue with Connexin 43 antibody (green) at 5 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Nuclei are counterstained with DAPI (blue). Connexin 43 immunoreactivity is observed in a punctate distribution along cardiomyocyte cell borders, consistent with the expected localization of this gap junction protein that forms intercellular channels essential for electrical coupling and synchronized cardiac contraction.



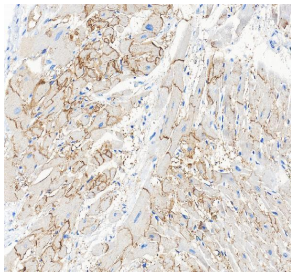
Connexin 43 Antibody Cardiac Conduction IHC. Immunohistochemical staining of FFPE rat heart tissue with Connexin 43 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Connexin 43 immunoreactivity is observed in a punctate distribution along cardiomyocyte cell borders, consistent with the expected localization of this gap junction protein that mediates intercellular communication, electrical coupling, and synchronized cardiac contraction. Cell nuclei are counterstained with hematoxylin (blue).



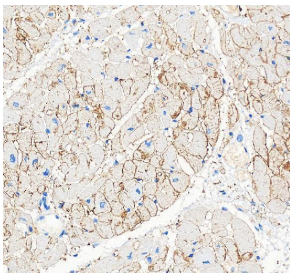
Connexin 43 Antibody Rat Heart Gap Junction IHC. Immunohistochemical staining of FFPE rat heart tissue with Connexin 43 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Connexin 43 immunoreactivity is observed in a punctate distribution along cardiomyocyte cell borders, consistent with the expected localization of this gap junction protein that mediates intercellular communication, electrical coupling, and synchronized cardiac contraction. Cell nuclei are counterstained with hematoxylin (blue).



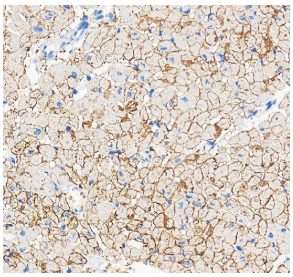
Connexin 43 Antibody Human Heart Gap Junction IHC. Immunohistochemical staining of FFPE human heart tissue with Connexin 43 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Connexin 43 immunoreactivity is observed in a characteristic punctate pattern along cardiomyocyte cell borders, consistent with the expected localization of this gap junction protein that forms intercellular channels required for electrical coupling and synchronized cardiac contraction. Cell nuclei are counterstained with hematoxylin (blue).



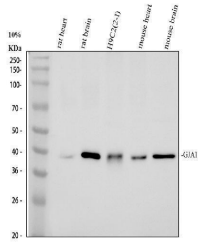
Connexin 43 Antibody Human Cardiomyocyte IHC. Immunohistochemical staining of FFPE human heart tissue with Connexin 43 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Connexin 43 immunoreactivity is observed in a punctate pattern along cardiomyocyte cell borders, consistent with the expected localization of this gap junction protein that forms intercellular channels responsible for electrical coupling and coordinated myocardial contraction. Cell nuclei are counterstained with hematoxylin (blue).



Connexin 43 Antibody Human Intercalated Disc IHC. Immunohistochemical staining of FFPE human heart tissue with Connexin 43 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Connexin 43 immunoreactivity is concentrated along cardiomyocyte cell borders, particularly at intercalated discs, consistent with the expected localization of this gap junction protein that mediates direct intercellular communication, electrical coupling, and synchronized cardiac contraction. Cell nuclei are counterstained with hematoxylin (blue).



Connexin 43 Antibody Human Myocardium IHC. Immunohistochemical staining of FFPE human heart tissue with Connexin 43 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Connexin 43 immunoreactivity is observed in a characteristic punctate pattern along adjacent cardiomyocyte membranes throughout the myocardium, consistent with the expected localization of this gap junction protein that facilitates direct intercellular communication, electrical impulse propagation, and synchronized myocardial contraction. Cell nuclei are counterstained with hematoxylin (blue).




Connexin 43 Antibody Mouse and Rat WB. Western blot testing of 1) rat heart, 2) rat brain, 3) rat H9C2 cardiomyoblast cells, 4) mouse heart, and 5) mouse brain lysates with Connexin 43 antibody at 0.5 ug/ml. A distinct immunoreactive band is detected at approximately 43 kDa in each sample, consistent with the predicted molecular weight of Connexin 43. The results demonstrate specific detection of this gap junction protein, which forms intercellular channels that mediate electrical and metabolic coupling between neighboring cells and are essential for synchronized cardiac function and neuronal communication.

## Description

Connexin 43 Antibody recognizes Connexin 43 (GJA1), the most widely expressed gap junction protein in mammalian tissues and a critical mediator of direct intercellular communication. Connexin 43 assembles into hexameric connexons that dock with connexons on neighboring cells to form gap junction channels, allowing the passage of ions, metabolites, and small signaling molecules between adjacent cells. Through this mechanism, Connexin 43 coordinates electrical coupling, metabolic homeostasis, and cellular responses across tissues. Consequently, Connexin 43 Antibody is widely used to investigate gap junction biology, cell-cell communication, tissue development, and disease pathogenesis.

Connexin 43 is expressed in numerous tissues, including the heart, brain, skin, liver, kidney, lung, vascular endothelium, and many epithelial cell types. It plays an essential role in synchronizing cardiac contraction, regulating neuronal and glial communication, supporting wound healing, and maintaining tissue homeostasis. Gap junction channels formed by Connexin 43 are dynamically regulated through phosphorylation, channel assembly, trafficking, and turnover, enabling tissues to rapidly adapt to changing physiological conditions. Because of its broad distribution and fundamental biological functions, Connexin 43 Antibody has become an important tool for studies of cellular signaling, tissue organization, and intercellular communication.

Altered Connexin 43 expression, localization, or phosphorylation has been implicated in numerous pathological conditions, including cardiac arrhythmias, myocardial infarction, heart failure, stroke, epilepsy, chronic inflammation, fibrosis, impaired wound healing, and many cancers. In oncology, Connexin 43 exhibits context-dependent functions that may either suppress tumor growth through enhanced cell-cell communication or contribute to tumor progression, invasion, and metastasis depending on the cellular environment. Ongoing research continues to examine Connexin 43 as both a biomarker and therapeutic target in cardiovascular disease, neurobiology, regenerative medicine, and cancer biology.

NSJ Bioreagents offers highly validated Connexin 43 Antibody products for reliable detection of endogenous Connexin 43 in human and animal tissues. These antibodies support investigations into gap junction formation, intercellular

communication, cardiac physiology, neuronal signaling, tissue repair, and disease mechanisms while enabling accurate characterization of Connexin 43 expression and localization. Researchers studying cell-cell communication, gap junction biology, and tissue homeostasis can rely on Connexin 43 Antibody for dependable and reproducible results.

Learn more about proteins involved in gap junction formation, intercellular communication and tissue homeostasis on our Cell Biology Antibodies page.

## Application Notes

The stated application concentrations are suggested starting amounts. Titration of the Connexin 43 Antibody / Gap Junction Protein Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

## Immunogen

An amino acid sequence from the C-terminus of human Connexin 43 (RASSRASSRPRPDDLEI) was used as the immunogen for this Connexin 43 antibody (100% conserved in mouse and rat).

## Storage

After reconstitution, the Connexin 43 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

## Alternate Names

GJA1 antibody, Gap Junction Alpha-1 Protein antibody, Gap Junction Protein Alpha 1 antibody, CX43 antibody, Cx43 antibody, Connexin-43 antibody


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