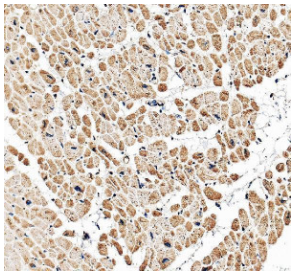
Connexin 40 Antibody / Gap Junction Protein Antibody (R30437)

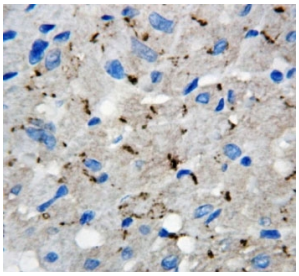
Catalog No.	Formulation	Size
R30437	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

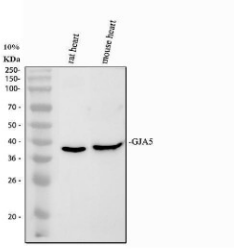
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P36382
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This Connexin 40 Antibody / Gap Junction Protein Antibody is available for research use only.



Connexin 40 Antibody Human Cardiac Muscle IHC. Immunohistochemical staining of FFPE human cardiac muscle tissue using Connexin 40 Antibody at 2 ug/ml with HRP/DAB detection following heat-induced epitope retrieval in pH8 EDTA buffer. Distinct membranous and cytoplasmic staining is observed in cardiomyocytes, consistent with the expected expression of Connexin 40 (GJA5) within cardiac gap junctions. This staining pattern demonstrates the utility of Connexin 40 Antibody, a Gap Junction Protein Antibody, for investigating intercellular communication, cardiac conduction and cardiovascular physiology.



Connexin 40 Antibody Rat Heart IHC. Immunohistochemistry staining of rat heart tissue using Connexin 40 antibody demonstrates punctate membranous and cytoplasmic staining within cardiac cell populations, consistent with expression of Connexin 40 (GJA5). Connexin 40 is a gap junction protein that forms intercellular channels facilitating the direct exchange of ions and signaling molecules between neighboring cells. The observed punctate staining pattern is characteristic of gap junction-associated proteins and reflects the localization of Connexin 40 within specialized cell-cell communication structures. These findings support the utility of Connexin 40 antibody for studies of cardiac signaling, intercellular communication, and gap junction biology.



Connexin 40 Antibody Mouse and Rat Heart WB. Western blot analysis of Connexin 40 Antibody using lane 1: rat heart tissue and lane 2: mouse heart tissue lysates. A specific band is detected at approximately 40 kDa in both samples, consistent with the predicted molecular weight of endogenous Connexin 40 (GJA5). These results demonstrate cross-species detection of this cardiac gap junction protein and support the use of Connexin 40 Antibody, a Gap Junction Protein Antibody, for studies of intercellular communication, cardiac conduction and cardiovascular physiology.

Description

Connexin 40 Antibody / Gap Junction Protein Antibody is designed for the detection and study of Connexin 40 (GJA5), a member of the connexin family of transmembrane proteins that form gap junction channels between adjacent cells. Connexin 40 plays a critical role in direct intercellular communication by allowing the passage of ions, metabolites, and small signaling molecules between neighboring cells. Through these activities, Connexin 40 contributes to tissue coordination, cellular synchronization, and maintenance of normal physiologic function.

As a gap junction protein, Connexin 40 assembles into membrane-spanning channels that connect the cytoplasm of adjacent cells. These specialized structures enable rapid cell-to-cell communication and allow tissues to function as integrated biologic units. Gap junction signaling is essential for coordinating cellular responses, maintaining tissue homeostasis, and regulating the exchange of signaling molecules across multicellular systems. Connexin 40 is one of the best-characterized members of this protein family and serves as an important mediator of intercellular communication.

Connexin 40 is widely expressed in tissues that require synchronized cellular activity and coordinated physiologic responses. Studies have demonstrated important roles for GJA5 in cardiovascular biology, vascular function, tissue development, and maintenance of organized cellular communication networks. Because gap junction channels facilitate direct transmission of signals between neighboring cells, Connexin 40 contributes to biologic processes that depend on efficient communication within complex tissue environments.

Beyond its role in normal physiology, Connexin 40 has attracted significant research interest in studies of cardiovascular signaling, developmental biology, tissue homeostasis, and disease-associated alterations in cellular communication. Changes in gap junction function can influence tissue organization, signaling dynamics, and cellular responsiveness. As a result, Connexin 40 remains an important target for investigations examining how direct intercellular communication contributes to normal tissue function and biologic regulation.

Connexin 40 is a key component of gap junction channels that integrate cellular activity across tissues and organ systems. Its ability to facilitate direct communication between neighboring cells places it at the center of signaling networks that coordinate tissue-level responses. Researchers continue to investigate Connexin 40 as a marker of gap junction biology, membrane channel function, and intercellular communication mechanisms.

Connexin 40 Antibody is useful for investigating gap junction biology, intercellular communication, cardiovascular signaling, tissue homeostasis, and connexin-mediated regulatory pathways. Researchers utilize Connexin 40 Antibody reagents to evaluate protein expression patterns and study molecular mechanisms governing cellular coordination, membrane channel activity, and direct cell-to-cell communication.

Explore additional antibodies to cardiac signaling proteins, vascular regulators, and cardiovascular research targets on our Cardiovascular Antibodies page.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the Connexin 40 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 40/GJA5 (KRRLSKASSKARSDDLSV) was used as the immunogen for this Connexin 40 antibody (100% homologous in human, mouse and rat).

Storage

After reconstitution, the Connexin 40 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

Connexin 40 Antibody, GJA5 Antibody, CX40 Antibody, Gap Junction Alpha-5 Protein Antibody, Gap Junction Protein Antibody, Intercellular Communication Protein Antibody, Connexin Family Protein Antibody

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