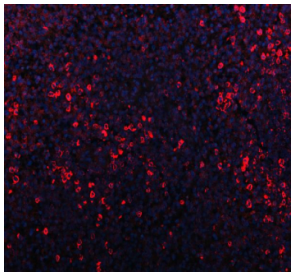
P2X5 Antibody / P2X purinoceptor 5 (R31718)

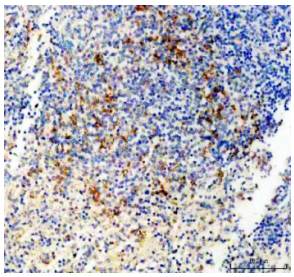
Catalog No.	Formulation	Size
R31718	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

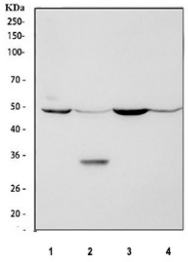
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
Gene ID	5026
Localization	Cytoplasmic & Cell Membrane
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml
Limitations	This P2X5 antibody is available for research use only.



Immunofluorescent staining of FFPE human spleen tissue with P2X5 antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH8 EDTA buffer for 20 min.



Immunohistochemical staining of FFPE human spleen tissue with P2X5 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis using P2X5 antibody. Lane 1: rat heart tissue lysates; Lane 2: rat kidney tissue lysates; Lane 3: mouse heart tissue lysates; Lane 4: mouse kidney tissue lysates. The predicted molecular weight of P2X5 (P2RX5) is ~47 kDa, and a band is observed at the expected size. An additional band at ~32 kDa is observed in rat kidney lysate, which may reflect a lower-molecular-weight species or non-specific reactivity.

Description

P2X5 antibody targets P2X purinoceptor 5, encoded by the P2RX5 gene. P2X purinoceptor 5 is a member of the P2X family of ATP-gated ion channels that mediate rapid cellular responses to extracellular adenosine triphosphate. P2X5 is a transmembrane protein that assembles as a trimeric channel in the plasma membrane, allowing the influx of cations following ATP binding. This receptor contributes to purinergic signaling pathways that link extracellular ATP release to changes in membrane potential and intracellular ion homeostasis.

Functionally, P2X purinoceptor 5 participates in signaling processes that regulate cellular excitability, differentiation, and survival. Upon ATP activation, P2X5 channels permit the passage of sodium, potassium, and calcium ions, initiating downstream signaling cascades. Compared with other P2X receptors, P2X5 displays distinct activation and desensitization properties, suggesting specialized roles in specific tissues and cellular contexts. A P2X5 antibody supports studies focused on purinergic receptor signaling and ATP-mediated communication between cells.

P2RX5 expression has been reported in skeletal muscle, immune cells, and selected regions of the nervous system. In muscle tissue, P2X5 has been linked to myoblast differentiation and muscle development, while in immune cells it may contribute to ATP-dependent regulation of immune responses. Expression levels and functional activity of P2X5 can vary depending on developmental stage and cellular state, highlighting its context-dependent biological roles within purinergic signaling networks.

From a disease-relevance perspective, P2X purinoceptor 5 has been investigated in studies of neuromuscular disorders, immune regulation, and cancer biology. Altered P2RX5 expression has been reported in certain tumors, where purinergic signaling can influence cell proliferation, differentiation, and interactions within the tumor microenvironment. P2X5 has also been explored as a modulator of inflammatory signaling, reflecting the broader involvement of P2X receptors in immune and stress-related pathways.

At the molecular level, P2X purinoceptor 5 has a predicted molecular weight of approximately 47 to 55 kDa, although observed electrophoretic mobility may vary due to glycosylation and other post-translational modifications. The protein contains two transmembrane domains flanking a large extracellular loop that forms the ATP-binding site, a conserved structural feature of P2X receptors. A P2X5 antibody supports research applications focused on ion channel biology, purinergic signaling, and disease-associated changes in ATP-mediated cellular communication, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the P2X5 antibody may be required

due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Human partial recombinant protein (AA 333-422) was used as the immunogen for this P2X5 antibody.

Storage

After reconstitution, the P2X5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.