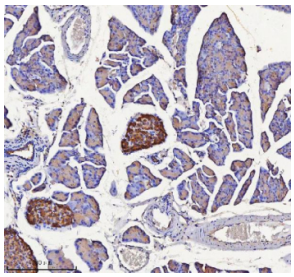
NPTX2 Antibody / Neuronal pentraxin 2 (FY12529)

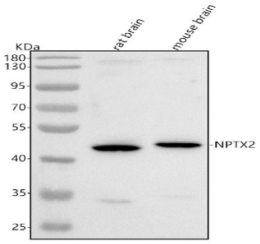
Catalog No.	Formulation	Size
FY12529	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

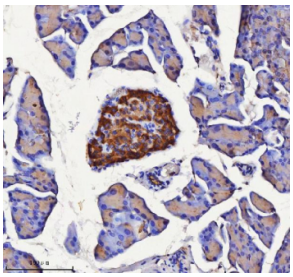
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P47972
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This NPTX2 antibody is available for research use only.



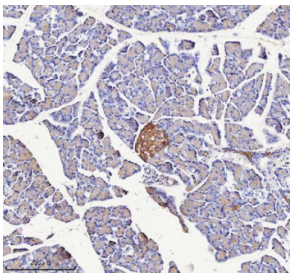
Immunohistochemical staining of NPTX2 using anti-NPTX2 antibody. NPTX2 was detected in a paraffin-embedded section of mouse pancreas tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NPTX2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



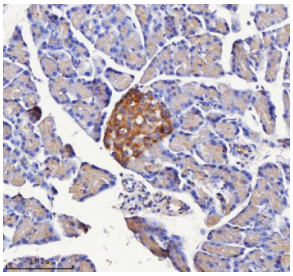
Western blot analysis of NPTX2 using anti-NPTX2 antibody. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NPTX2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A specific band was detected for NPTX2 at approximately 47 kDa. The expected molecular weight of NPTX2 is ~47 kDa.



Immunohistochemical staining of NPTX2 using anti-NPTX2 antibody. NPTX2 was detected in a paraffin-embedded section of mouse pancreas tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NPTX2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Immunohistochemical staining of NPTX2 using anti-NPTX2 antibody. NPTX2 was detected in a paraffin-embedded section of rat pancreas tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NPTX2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Immunohistochemical staining of NPTX2 using anti-NPTX2 antibody. NPTX2 was detected in a paraffin-embedded section of rat pancreas tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NPTX2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.

Description

NPTX2 antibody detects Neuronal pentraxin-2, a secreted neuronal glycoprotein involved in synaptic plasticity, excitatory synapse formation, and long-term neuronal communication. NPTX2 belongs to the neuronal pentraxin family, which includes NPTX1 and NPTR, proteins that share structural similarities with classical acute-phase pentraxins but function primarily in the central nervous system. The NPTX2 antibody is widely used to study synapse organization, neuronal activity regulation, and neurodegenerative disorders such as Alzheimer's disease.

NPTX2 is encoded by the NPTX2 gene located on human chromosome 7q21.3. The protein is approximately 47 kilodaltons and secreted from presynaptic terminals, where it binds AMPA-type glutamate receptors on postsynaptic neurons. This interaction enhances receptor clustering, synaptic strength, and excitatory transmission. NPTX2 is highly expressed in cortical and hippocampal neurons and plays a key role in activity-dependent synaptic refinement during learning and memory.

The NPTX2 antibody detects a 47 kilodalton band on western blot. In the brain, NPTX2 is upregulated by neuronal activity and acts in concert with NPTX1 and NPTR to regulate synaptic homeostasis. Disruption of NPTX2 expression leads to impaired long-term potentiation and deficits in learning and behavior. Cerebrospinal fluid levels of NPTX2 have been

proposed as a biomarker for early-stage neurodegeneration, with reductions correlating to cognitive decline in Alzheimer's and frontotemporal dementia.

At the molecular level, NPTX2 binds to neuronal pentraxin receptor (NPTXR) to form hetero-oligomeric complexes that tether AMPA receptors to the postsynaptic membrane. This complex promotes excitatory synapse stabilization and neurotransmitter signaling efficiency. Dysregulation of this system contributes to excitatory-inhibitory imbalance, a hallmark of several neuropsychiatric and neurodegenerative conditions.

Beyond the nervous system, NPTX2 expression has been observed in pancreatic islets and endocrine tissues, where it may regulate calcium-dependent secretion. NSJ Bioreagents provides a validated NPTX2 antibody optimized for western blot and immunohistochemistry, supporting research into neuronal plasticity, receptor clustering, and disease-related synaptic dysfunction.

Application Notes

Optimal dilution of the NPTX2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NPTX2 recombinant protein (Position: G16-L431) was used as the immunogen for the NPTX2 antibody.

Storage

After reconstitution, the NPTX2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Copyright © NSJ Bioreagents. All rights reserved.