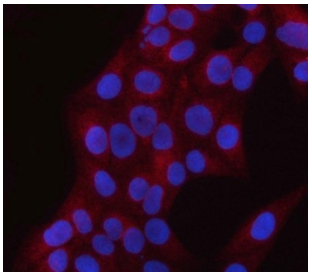
PNPLA6 Antibody / NTE (RQ8014)

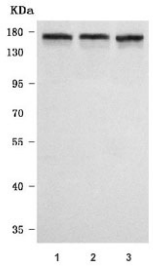
Catalog No.	Formulation	Size
RQ8014	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

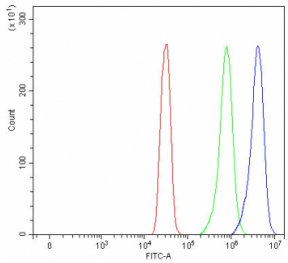
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q8IY17
Localization	Cytoplasm
Applications	Western Blot : 0.5-1ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells Direct ELISA : 0.1-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This PNPLA6 antibody is available for research use only.



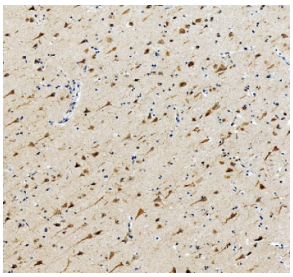
PNPLA6 Antibody for IF. Immunofluorescence analysis in human U-2 OS cells. FFPE human U-2 OS cells stained with PNPLA6 antibody (red) show predominantly cytoplasmic staining, consistent with its role as a membrane-associated phospholipase. Nuclei are counterstained with DAPI (blue). Antigen retrieval was performed using pH6 citrate buffer with heat-induced epitope retrieval prior to staining.



PNPLA6 Antibody for WB. Western blot analysis in human HeLa, 293T, and SH-SY5Y cell lysates. Lane 1: HeLa lysate, Lane 2: 293T lysate, Lane 3: SH-SY5Y lysate. A band is detected at approximately 140-150 kDa, consistent with the predicted molecular weight of Patatin-like phospholipase domain-containing protein 6 / PNPLA6. The observed band pattern likely reflects multiple isoforms of PNPLA6, which are known to arise from alternative splicing and contribute to its diverse roles in phospholipid metabolism and neuronal maintenance.



PNPLA6 Antibody for FACS. Flow cytometry analysis in human SiHa cells. Fixed and permeabilized human SiHa cells were stained with PNPLA6 antibody at 1 ug per million cells following blocking with goat sera. Red histogram represents unstained cells, green indicates isotype control, and blue shows PNPLA6 antibody staining with a clear rightward shift, demonstrating specific detection of Patatin-like phospholipase domain-containing protein 6 / PNPLA6. This result supports intracellular expression of PNPLA6 consistent with its role in phospholipid metabolism and neuronal-associated signaling pathways.



PNPLA6 Antibody for IHC. Immunohistochemistry analysis in human brain tissue. FFPE human brain tissue stained with PNPLA6 antibody shows cytoplasmic staining in neuronal cell bodies and processes, consistent with its role in phospholipid metabolism and neuronal maintenance. Detection was performed using an HRP-conjugated secondary antibody with DAB chromogen (brown), and nuclei are counterstained with hematoxylin (blue). Antigen retrieval was carried out using pH8 EDTA buffer with heat-induced epitope retrieval prior to staining.

Description

PNPLA6 antibody is a key tool for investigating lipid metabolism, neuronal maintenance, and signaling. The encoded protein, patatin-like phospholipase domain-containing protein 6 (also known as NTE), belongs to the patatin-like phospholipase family. PNPLA6 is an esterase that hydrolyzes phosphatidylcholine and other phospholipids, playing a critical role in maintaining membrane composition and lipid signaling balance. Originally identified as neuropathy target esterase, PNPLA6 gained attention because of its link to organophosphate-induced delayed neuropathy, where inhibition leads to axonal degeneration.

PNPLA6 is broadly expressed but shows high levels in nervous tissue, where it helps preserve neuronal structure and function. By regulating phospholipid homeostasis, PNPLA6 supports axonal integrity and myelination, protecting neurons from degeneration. Beyond its neural roles, it also contributes to intracellular signaling and development, with evidence indicating functions in spermatogenesis and embryogenesis. Its diverse roles highlight PNPLA6 as a multifunctional enzyme essential for both neural and reproductive biology.

Genetic studies have connected PNPLA6 mutations to a spectrum of neurodegenerative and neurodevelopmental disorders. These include spastic paraplegia type 39, Boucher-Neuhauser syndrome, and Oliver-McFarlane syndrome. Such conditions are often characterized by motor neuron degeneration, ataxia, and endocrine abnormalities. The variety of phenotypes linked to PNPLA6 dysfunction underscores the proteinÃ¢Â€Â™s importance in multiple organ systems. Research into these disorders has positioned PNPLA6 as a target of growing interest in both basic neuroscience and translational medicine.

At the biochemical level, PNPLA6 contains a patatin-like domain that mediates phospholipase activity, along with regulatory regions that control enzyme localization and activity. This structural design allows PNPLA6 to integrate lipid metabolism with signaling pathways that affect neuronal survival and differentiation. Inhibition or mutation of PNPLA6 disrupts these processes, leading to cellular stress, defective membrane maintenance, and progressive degeneration.

The PNPLA6 antibody is widely used in western blotting, immunohistochemistry, immunofluorescence, and flow cytometry. These approaches enable detailed analysis of protein expression, distribution, and changes under disease or experimental conditions. For scientists studying axonal biology, lipid metabolism, or hereditary neuropathies, the PNPLA6 antibody provides a robust and reliable detection tool. NSJ Bioreagents offers validated antibodies designed to ensure reproducibility and precision in advanced research applications.

Application Notes

Optimal dilution of the PNPLA6 antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids H15-E1296) was used as the immunogen for the PNPLA6 antibody.

Storage

After reconstitution, the PNPLA6 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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