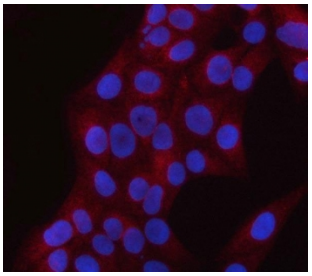
PNPLA6 Antibody / NTE (RQ8014)

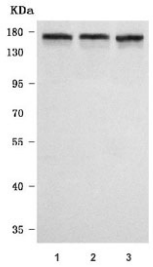
Catalog No.	Formulation	Size
RQ8014	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

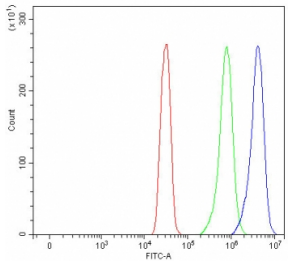
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q8IY17
Localization	Cytoplasm
Applications	Western Blot : 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.



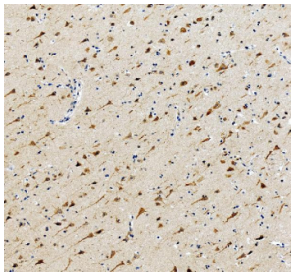
Immunofluorescent staining of FFPE human U-2 OS cells with PNPLA6 antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of human 1) HeLa, 2) 293T and 3) SH-SY5Y cell lysate with PNPLA6 antibody. Predicted molecular weight: 143-151 kDa (multiple isoforms).



Flow cytometry testing of fixed and permeabilized human SiHa cells with PNPLA6 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= PNPLA6 antibody.



IHC staining of FFPE human brain tissue with PNPLA6 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

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.