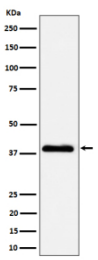
NSDHL Antibody / NADP dependent steroid dehydrogenase like protein [clone 30N01] (FY12756)

Catalog No.	Formulation	Size
FY12756	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	30N01
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q15738
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This NSDHL antibody is available for research use only.



Western blot analysis of NSDHL expression in A431 cell lysate using NSDHL antibody. NSDHL is an ER-associated membrane protein that typically migrates faster on SDS-PAGE due to signal peptide cleavage and altered SDS binding and is commonly observed at ~38 kDa.

Description

NSDHL antibody detects NADP dependent steroid dehydrogenase like protein, encoded by the NSDHL gene. This protein is also known as sterol 4 alpha carboxylate 3 dehydrogenase decarboxylating, H105E3, and the human homolog

of the mouse bare patches gene. NSDHL is an essential enzyme in the cholesterol biosynthetic pathway. It functions in the endoplasmic reticulum, catalyzing oxidative decarboxylation of C4 methylated sterol intermediates. These steps are necessary for the removal of methyl groups during the conversion of lanosterol to cholesterol. Because cholesterol is critical for membranes, steroid hormones, and signaling lipids, NSDHL plays a central role in both basic metabolism and developmental biology.

NSDHL antibody is widely applied in studies of cholesterol metabolism, embryogenesis, dermatology, and disease research. Mutations in NSDHL cause CHILD syndrome, a rare X linked disorder that results in congenital hemidysplasia, ichthyosiform erythroderma, and limb defects. By detecting NSDHL, researchers can trace how mutations impair cholesterol synthesis and lead to toxic sterol accumulation. The protein is expressed in multiple tissues with high metabolic activity, including liver, brain, and skin, making it a valuable marker for sterol pathway integrity.

Applications of NSDHL antibody include western blotting, immunohistochemistry, and immunofluorescence. Western blot assays identify NSDHL expression in tissue lysates, immunohistochemistry highlights spatial distribution in liver and epidermis, and immunofluorescence reveals its localization in the endoplasmic reticulum. These methods allow researchers to connect protein expression to sterol metabolism and developmental outcomes. Because cholesterol synthesis is fundamental across organisms, NSDHL antibody has relevance in both basic biology and translational studies.

Biochemically, NSDHL functions alongside other C4 demethylation enzymes, including sterol C4 methyl oxidase and 3 beta hydroxysteroid dehydrogenase like proteins. Together they coordinate the removal of C4 methyl groups, ensuring accurate production of downstream sterols. Disruption of NSDHL activity interrupts this sequence, creating intermediates that impair membranes and signal transduction. By applying NSDHL antibody, scientists can evaluate enzyme function within the broader sterol demethylation complex.

Beyond congenital syndromes, NSDHL is increasingly studied in oncology. Cancer cells reprogram metabolism to support proliferation, and cholesterol synthesis is frequently upregulated. NSDHL expression correlates with tumor growth and resistance to certain therapies. Inhibiting sterol biosynthetic enzymes, including NSDHL, is a promising therapeutic strategy under investigation. The antibody therefore has applications in cancer metabolism research, where monitoring NSDHL may reveal vulnerabilities to metabolic intervention.

Cholesterol synthesis also intersects with neurobiology. The brain relies heavily on de novo cholesterol production, and NSDHL mutations or altered expression affect myelination and neuronal function. By detecting NSDHL with antibody based assays, researchers can study sterol metabolism in neurodevelopmental disorders and neurodegeneration. These insights extend to understanding how cholesterol imbalances influence synaptic function and cognition.

NSDHL antibody from NSJ Bioreagents provides strong specificity for detecting this essential sterol dehydrogenase. Its validated performance across molecular and cellular assays ensures accurate measurement of NSDHL in cholesterol metabolism, development, cancer, and neurological research.

Application Notes

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

Immunogen

A synthesized peptide derived from human NSDHL was used as the immunogen for the NSDHL antibody.

Storage

Store the NSDHL antibody at -20oC.