NSDHL Antibody / Sterol-4-alpha-carboxylate 3-dehydrogenase (FY13155)

Catalog No.	Formulation	Size
FY13155	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
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	Q15738
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This NSDHL antibody is available for research use only.

Description

NSDHL antibody detects Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating, a membrane-associated enzyme involved in cholesterol biosynthesis. The UniProt recommended name is Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating (NSDHL). This enzyme catalyzes oxidative decarboxylation of sterol intermediates during the post-squalene steps of cholesterol production, playing a crucial role in lipid homeostasis and membrane integrity.

Functionally, NSDHL antibody identifies a 373-amino-acid enzyme localized to the endoplasmic reticulum membrane. NSDHL acts sequentially with other enzymes such as HSD17B7 and EBP to remove carboxyl groups from C4-methyl sterols, facilitating the conversion of lanosterol to cholesterol. Its catalytic activity contributes to maintaining sterol balance essential for cell signaling and membrane function.

The NSDHL gene is located on chromosome Xq28 and is highly expressed in liver, skin, and brain tissues. Its activity supports embryonic development, epidermal differentiation, and lipid raft formation in cell membranes. NSDHL is

evolutionarily conserved and tightly regulated to ensure steady cholesterol output.

Pathologically, mutations in NSDHL cause CHILD syndrome (Congenital Hemidysplasia with Ichthyosiform erythroderma and Limb Defects), a rare X-linked disorder involving defective cholesterol metabolism and asymmetric skin and limb malformations. NSDHL dysfunction also disrupts sterol intermediates, leading to toxic accumulation of precursors. Research using NSDHL antibody supports studies in lipid metabolism, cholesterol biosynthesis, and genetic disorders of sterol processing.

NSDHL antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect sterol biosynthetic enzymes. NSJ Bioreagents provides NSDHL antibody reagents optimized for lipid biology, metabolism, and enzymology research.

Structurally, Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating contains a short-chain dehydrogenase/reductase catalytic domain and transmembrane segments that anchor it to the endoplasmic reticulum. This antibody enables study of NSDHLÂ's role in sterol conversion and metabolic regulation.

Application Notes

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

Immunogen

E.coli-derived human NSDHL recombinant protein (Position: E7-K373) was used as the immunogen for the NSDHL antibody.

Storage

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