

ALOX5AP Antibody / Arachidonate 5-lipoxygenase-activating protein (FY13268)

Catalog No.	Formulation	Size
FY13268	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human
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 Na ₂ HPO ₄ .
UniProt	P20292
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This ALOX5AP antibody is available for research use only.

Description

ALOX5AP antibody detects Arachidonate 5-lipoxygenase-activating protein, a membrane-bound lipid-binding protein that plays an essential role in leukotriene biosynthesis. The UniProt recommended name is Arachidonate 5-lipoxygenase-activating protein (ALOX5AP). This protein facilitates the interaction between arachidonic acid and the enzyme 5-lipoxygenase (ALOX5), enabling the production of leukotrienes that mediate inflammation and immune responses.

Functionally, ALOX5AP antibody identifies a 161-amino-acid integral membrane protein located primarily in the nuclear envelope and endoplasmic reticulum. ALOX5AP functions as a scaffold that transfers arachidonic acid to ALOX5, catalyzing the first steps of leukotriene synthesis—conversion of arachidonic acid to leukotriene A₄. This process produces potent signaling molecules that regulate vascular permeability, smooth muscle contraction, and leukocyte recruitment during inflammation.

The ALOX5AP gene is located on chromosome 13q12.3 and is highly expressed in leukocytes, macrophages, and endothelial cells. Expression increases in response to pro-inflammatory stimuli such as cytokines, lipopolysaccharides,

and oxidative stress, linking ALOX5AP to innate immunity and inflammatory signaling networks.

Pathologically, ALOX5AP has been strongly associated with chronic inflammatory diseases including asthma, atherosclerosis, and stroke. Genetic polymorphisms in ALOX5AP are linked to increased cardiovascular risk and altered leukotriene production. Overactivation contributes to endothelial dysfunction and plaque instability. Research using ALOX5AP antibody supports studies in lipid mediator biosynthesis, immune cell signaling, and vascular inflammation.

ALOX5AP antibody is validated for western blotting, immunohistochemistry, and ELISA to detect lipid metabolism-associated proteins. NSJ Bioreagents provides ALOX5AP antibody reagents optimized for research in leukotriene synthesis, inflammation, and cardiovascular disease.

Structurally, Arachidonate 5-lipoxygenase-activating protein is an integral membrane protein containing four transmembrane helices that form a hydrophobic pocket for arachidonic acid binding and transfer. It interacts directly with ALOX5 at the nuclear membrane, coordinating substrate channeling during leukotriene biosynthesis. This antibody enables precise examination of ALOX5AP's role in lipid mediator production and inflammatory regulation.

Application Notes

Optimal dilution of the ALOX5AP antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human ALOX5AP was used as the immunogen for the ALOX5AP antibody.

Storage

After reconstitution, the ALOX5AP antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.