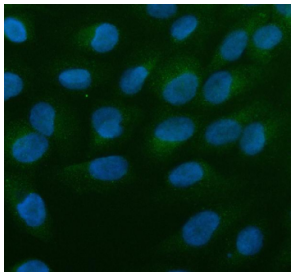
ALOX5AP Antibody / Arachidonate 5-lipoxygenase-activating protein (FY13268)

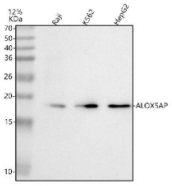
Catalog No.	Formulation	Size
FY13268	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

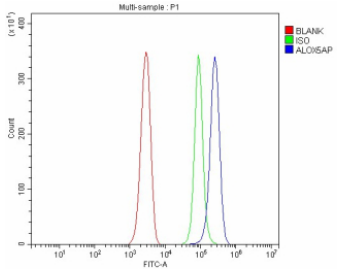
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P20292
Localization	ER, nuclear membrane
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This ALOX5AP antibody is available for research use only.



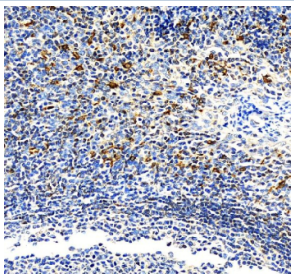
Immunofluorescent staining of ALOX5AP using anti-ALOX5AP antibody (green). ALOX5AP was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-ALOX5AP antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of ALOX5AP using anti-ALOX5AP antibody. Lane 1: human Raji whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human HepG2 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ALOX5AP antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A specific band was detected for ALOX5AP at approximately 18 kDa. The expected molecular weight of ALOX5AP is ~18 kDa.



Flow Cytometry analysis of JK cells using anti-ALOX5AP antibody. Overlay histogram showing JK cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-ALOX5AP antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Immunohistochemical staining of ALOX5AP using anti-ALOX5AP antibody. ALOX5AP was detected in a paraffin-embedded section of human tonsil tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-ALOX5AP antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.

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 synthesisÃ¯Â¿Â½conversion 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 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.