Data Sheet (Cat.No.TMAH-00055)

Anti-ALOX5 Antibody (7O959)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	7O959
Purification:	Affinity-chromatography

Applications

Verified Activity:	1. IHC image of TMAH-00055 diluted at 1:100 and staining in paraffin-embedded human lung tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB. 2. IHC image of TMAH-00055 diluted at 1:100 and staining in paraffin-embedded human spleen tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.
Application:	ELISA,IHC
Recommended	IHC:1:50-1:200.

Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthetic peptide: Human 5 Lipoxygenase
Antigen Species:	Human
Gene ID:	240
Uniprot ID:	P09917
Synonyms:	5-lipoxygenase;ALOX 5;LOG5;EC 1.13.11.34;Arachidonate 5-lipoxygenase;5-LO
Biology Area:	Cancer, Cardiovascular, Metabolism, Signal transduction

Research Background

Catalyzes the oxygenation of arachidonate ((5Z,8Z,11Z,14Z)-eicosatetraenoate) to 5-hydroperoxyeicosatetraenoate (5-HPETE) followed by the dehydration to 5,6- epoxyeicosatetraenoate (Leukotriene A4/LTA4), the first two steps in the biosynthesis of leukotrienes, which are potent mediators of inflammation. Also catalyzes the oxygenation of

arachidonate into 8-hydroperoxyicosatetraenoate (8-HPETE) and 12-hydroperoxyicosatetraenoate (12-HPETE). Displays lipoxin synthase activity being able to convert (15S)-HETE into a conjugate tetraene. Although arachidonate is the preferred substrate, this enzyme can also metabolize oxidized fatty acids derived from arachidonate such as (15S)-HETE, eicosapentaenoate (EPA) such as (18R)- and (18S)-HEPE or docosahexaenoate (DHA) which lead to the formation of specialized pro-resolving mediators (SPM) lipoxin and resolvins E and D respectively, therefore it participates in anti-inflammatory responses. Oxidation of DHA directly inhibits endothelial cell proliferation and sprouting angiogenesis via peroxisome proliferator-activated receptor gamma (PPARgamma). It does not catalyze the oxygenation of linoleic acid and does not convert (5S)-HETE to lipoxin isomers. In addition to inflammatory processes, it participates in dendritic cell migration, wound healing through an antioxidant mechanism based on heme oxygenase-1 (HO-1) regulation expression, monocyte adhesion to the endothelium via ITGAM expression on monocytes. Moreover, it helps establish an adaptive humoral immunity by regulating primary resting B cells and follicular helper T cells and participates in the CD40-induced production of reactive oxygen species (ROS) after CD40 ligation in B cells through interaction with PIK3R1 that bridges ALOX5 with CD40. Also may play a role in glucose homeostasis, regulation of insulin secretion and palmitic acid-induced insulin resistance via AMPK. Can regulate bone mineralization and fat cell differentiation increases in induced pluripotent stem cells.