

Datasheet for ABIN7549093
ALOX5 Protein (AA 1-674) (His tag)



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Overview

Quantity:	1 mg
Target:	ALOX5
Protein Characteristics:	AA 1-674
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This ALOX5 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat ALOX5 Protein expressed in mammalian cells.
Sequence:	MPSYTVTVAT GSQWFAGTDD YIYLSLVGSA GCSEKHLLDK PFYNDFERGA VDSYDVTVDE ELGEIQLVRI EKRKYWLND WYLKYITLKT PHGDYIEFPC YRWITGDVEV VLRDGRAKLA RDDQIHILKQ HRRKELETRQ KQYRWMEWNP GFPLSIDAKC HKDLPRDIQF DSEKGVDFVL NYSKAMENLF INRFMHMFQS SWNDFADFEK IFVKISNTIS ERVMNHWQED LMFGYQFLNG CNPVLIRRCT ELPEKLPVTT EMVECSLERQ LSLEQEVQQG NIFIVDFELL DGIDANKTDP CTLQFLAAPI CLLYKNLANK IVPIAIQLNQ IPGDENPIFL PSDAKYDWLL AKIWRSSDF HVHQITITHLL RTHLVSEVFG IAMYRQLPAV HPIFKLLVAH VRFTIAINTK AREQLICECG LFDKANATGG GGHVQMVQRA MKDLTYASLC FPEAIKARGM ESKEDIPYYF YRDDGLLVWE AIRTFTAQEVV DIYYEGDQVV EEDPELQDFV NDVYVYGMRG RKSSGFPKSV KSREQLSEYL TVVIFTASAQ HAAVNFGQYD WCSWIPNAPP TMRAPPPTAK GVVTIEQIVD TLPDRGRSCW HLGAVWALSQ FQENELFLGM YPEEHFIEKP VKEAMARFRK NLEAIVSVIA ERNKKKQLPY

YYLSPDRIPN SVAI **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**

Characteristics:

Key Benefits:

- Made to order protein - from design to production - by highly experienced protein experts.
- Protein expressed in mammalian cells and purified in one-step affinity chromatography
- The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.

If you are not interested in a full length protein, please contact us for individual protein fragments.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Purity:

> 90 % as determined by Bis-Tris Page, Western Blot

Grade:

custom-made

Target Details

Target:

ALOX5

Alternative Name:

ALOX5 ([ALOX5 Products](#))

Background:

Polyunsaturated fatty acid 5-lipoxygenase (EC 1.13.11.-) (Arachidonate 5-lipoxygenase) (5-LO) (5-lipoxygenase) (EC 1.13.11.34),FUNCTION: 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 (PubMed:8631361, PubMed:21233389, PubMed:22516296, PubMed:24282679, PubMed:19022417, PubMed:23246375, PubMed:8615788, PubMed:24893149, PubMed:31664810). Also catalyzes the oxygenation of arachidonate into 8-hydroperoxyicosatetraenoate (8-HPETE) and 12-hydroperoxyicosatetraenoate (12-HPETE) (PubMed:23246375). Displays lipoxin synthase activity being able to convert (15S)-HETE into a conjugate tetraene (PubMed:31664810).

Target Details

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 (PubMed:21206090, PubMed:31664810, PubMed:8615788, PubMed:17114001, PubMed:32404334). Oxidation of DHA directly inhibits endothelial cell proliferation and sprouting angiogenesis via peroxisome proliferator-activated receptor gamma (PPARgamma) (By similarity). It does not catalyze the oxygenation of linoleic acid and does not convert (5S)-HETE to lipoxin isomers (PubMed:31664810). 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 (By similarity). 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 (PubMed:21200133). May also play a role in glucose homeostasis, regulation of insulin secretion and palmitic acid-induced insulin resistance via AMPK (By similarity). Can regulate bone mineralization and fat cell differentiation increases in induced pluripotent stem cells (By similarity). {ECO:0000250|UniProtKB:P48999, ECO:0000269|PubMed:17114001, ECO:0000269|PubMed:19022417, ECO:0000269|PubMed:21200133, ECO:0000269|PubMed:21206090, ECO:0000269|PubMed:21233389, ECO:0000269|PubMed:22516296, ECO:0000269|PubMed:23246375, ECO:0000269|PubMed:24282679, ECO:0000269|PubMed:24893149, ECO:0000269|PubMed:31664810, ECO:0000269|PubMed:32404334, ECO:0000269|PubMed:8615788, ECO:0000269|PubMed:8631361}.

Molecular Weight:	78.0 kDa
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UniProt:	P09917
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Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
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Restrictions:	For Research Use only
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Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months