PRODUCT INFORMATION

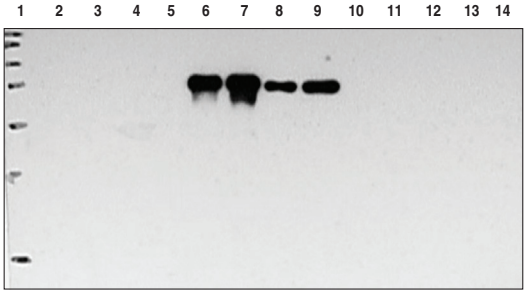
15-Lipoxygenase-2 Polyclonal Antibody

Item No. 10004454

Overview and Properties

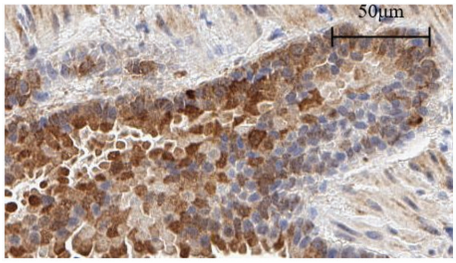
Contents:	This vial contains 50-500 µg of peptide affinity-purified antibody.
Synonyms:	ALOX15B, Arachidonate 15-lipoxygenase B, Arachidonate 15-Lipoxygenase type II, 15-LO-2, 15-LOX-2, Linoleate 13-lipoxygenase 15-Lob
Immunogen:	Synthetic peptide from the internal region of human 15-lipoxygenase-2
Cross Reactivity:	(-) Rabbit reticulocyte 15-lipoxygenase-1, porcine leukocytes 12-lipoxygenase-1, and 5-lipoxygenase (human recombinant)
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	O15296
Form:	Solid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	TBS, pH 7.4, when reconstituted with 500 µl double distilled water
Host:	Rabbit
Applications:	Immunocytochemistry (ICC), immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for IHC and WB is 1:40 and 1:200, respectively. ICC and other applications were not tested, therefore optimal working concentration/ dilution should be determined empirically.

Images



Lane 1: Precision Plus Protein Standard
Lane 2: 15-LO1 Western Ready Control (5 µl)
Lane 3: 15-LO1 Western Ready Control (10 µl)
Lane 4: 15-LO1 Recombinant (pure) (0.01 µg)
Lane 5: 15-LO1 Recombinant (pure) (0.02 µg)
Lane 6: 15-LO2 Western Ready Control (5 µl)
Lane 7: 15-LO2 Western Ready Control (10 µl)
Lane 8: 15-LO2 Recombinant (pure) (0.01 µg)
Lane 9: 15-LO2 Recombinant (pure) (0.02 µg)
Lane 10: 5-LO Western Ready Control (1 µl)
Lane 11: 5-LO Western Ready Control (5 µl)
Lane 12: 5-LO Western Ready Control (10 µl)
Lane 13: Porcine Leukocyte lysate (10 µg)
Lane 14: Porcine Leukocyte lysate (20 µg)

Figure 1: 15-Lipoxygenase 2 Polyclonal Antibody used at 1:200 dilution detected 15-LO2 but not 15-LO1, 5-LO or any lipoxygenases present in porcine leukocytes (*i.e.* 12-LO).



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human adrenal tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with 15-Lipoxygenase-2 Polyclonal Antibody (Item No. 10004454) at a 1:40 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

Two types of 15-lipoxygenase (15-LO) have been discovered and characterized, both of which metabolize arachidonic acid (AA) to produce 15(S)-hydroxyeicosatetraenoic acid (15(S)-HETE). 15-LO-1 oxygenates AA at both C15 and C12,[1] whereas 15-LO-2 exclusively oxygenates C15 of AA.[2] Human 15-LO-2 has a molecular mass of approximately 76 kDa and exhibits approximately 40% identity to the reticulocyte 15-LO-1.[2,3] Expression of 15-LO-2 appears to be restricted to prostate, lung, skin, and cornea and may play a role in the normal development of these tissues.[4] The protein levels and enzymatic activity of 15-LO-2 are both down-regulated in prostate cancer compared with normal and benign prostate tissues, implicating a possible protective role for 15-LO-2 against tumor formation.[4-6]

References

1. Kuhn, H., Barnett, J., Grunberger, D., *et al.* Overexpression, purification and characterization of human recombinant 15-lipoxygenase. *Biochem. Biophys. Acta* **1169(1)**, 80-89 (1993).
2. Brash, A.R., Chang, M.S., and Boeglin, W.E. Discovery of a second 15S-lipoxygenase in humans. *Proc. Natl. Acad. Sci. USA* **94**, 6148-6152 (1997).
3. Kilty, I., Logan, A., and Vickers, P.J. Differential characteristics of human 15-lipoxygenase isozymes and novel splice variant of 15S-lipoxygenase. *Eur. J. Biochem.* **266**, 83-93 (1999).
4. Tang, S., Bhatia, B., Maldonado, C.J., *et al.* Evidence that arachidonate 15-lipoxygenase 2 is a negative cell cycle regulator in normal prostate epithelial cells. *J. Biol. Chem.* **277(18)**, 16189-16201 (2002).
5. Shappell, S.B., Boeglin, W.E., Olson, S.J., *et al.* 15-lipoxygenase-2 (15-LOX-2) is expressed in benign prostatic epithelium and reduced in prostate adenocarcinoma. *Am. J. Pathol.* **155**, 235-245 (1999).
6. Jack, G.S., Brash, A.R., Olson, S.J., *et al.* Reduced 15-lipoxygenase-2 immunostaining in prostate adenocarcinoma: Correlation with grade and expression in high-grade prostatic intraepithelial neoplasia. *Human Pathology* **31(9)**, 1146-1154 (2000).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM