

Product Information



15-Lipoxygenase-2 Polyclonal Antibody

Item No. 10004454 • Lot No. XXXX

Synonyms:	15-LO-2, Arachidonate 15-Lipoxygenase type II, 15-LOX-2
Contents:	This vial contains lot specific µg peptide affinity-purified IgG in 500 µl TBS, pH 7.4, containing 50% glycerol, 0.1% BSA, and 0.02% sodium azide.
Host:	Rabbit
Antigen:	Human 15-lipoxygenase-2 amino acids 161-179 (CLDEKTVEDLELNKYSTA)
Cross-reactivity:	(+) Human 15-Lipoxygenase-2; (-) rabbit reticulocyte 15-lipoxygenase-1, porcine leukocytes 12-lipoxygenase-1, and 5-lipoxygenase (human recombinant)
Stability:	≥1 year at -20°C
Applications:	Western blotting at 1:200 and immunocytochemistry at 1: lot specific (lot specific µg/ml); other applications were not tested.

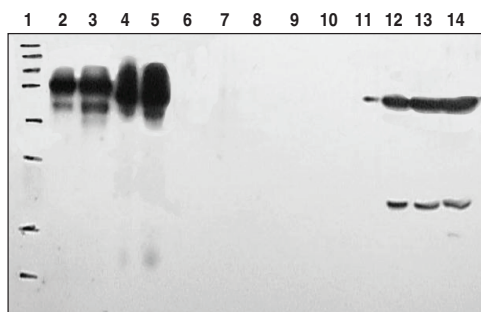
Two types of 15-lipoxygenase (15-LO) have been discovered and characterized, both of which metabolize arachidonic acid (AA) to produce 15(S)-hydroxyeicosatetraenoic acid (15(S)-HETE). 15-LO-1 oxygenates AA at both C15 and C12,¹ whereas 15-LO-2 exclusively oxygenates C15 of AA.² Human 15-LO-2 has a molecular 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).

Related Products

12-Lipoxygenase (porcine leukocyte) - Item No. 60300 • 15-Lipoxygenase (rabbit reticulocyte) Polyclonal Antiserum - Item No. 160704 • 15-Lipoxygenase-2 Blocking Peptide - Item No. 10004457 • 15-Lipoxygenase-2 (human recombinant) - Item No. 10011263 • 15-Lipoxygenase-2 Western Ready Control - Item No. 10011500



Lane 1: Precision plus protein standard
Lane 2: 15-LO-1 Western Ready Control (5 µl)
Lane 3: 15-LO-1 Western Ready Control (10 µl)
Lane 4: 15-LO-1 Recombinant (pure) (0.01 µg)
Lane 5: 15-LO-1 Recombinant (pure) (0.02 µg)
Lane 6: 15-LO-2 Western Ready Control (5 µl)
Lane 7: 15-LO-2 Western Ready Control (10 µl)
Lane 8: 15-LO-2 Recombinant (pure) (0.01 µg)
Lane 9: 15-LO-2 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 100 k x g supernatant (10 µg)
Lane 14: Porcine Leukocyte 100 k x g supernatant (20 µg)

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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