

Product Information



15-Lipoxygenase-2 (human recombinant)

Catalog No. 10011263

Synonyms:	15-LO-2, 15-LOX-2
Source:	Human recombinant C-terminal His-tagged protein expressed in <i>E. coli</i>
M_r:	76 kDa
Purity:	≥95%
Supplied in:	A solution in PBS, pH 7.4, containing 1 mM DTT and 20% glycerol
Stability:	≥6 months at -80°C; Avoid freeze/thaw cycles by aliquoting the protein and storing at -80°C
Protein concentration:	1.0 mg/ml
Specific activity:	250 U/mg; 1 unit is defined as the amount of enzyme required to produce 1 nmol of 15-HpETE per min at 30°C in 50 mM Tris-HCl, pH 7.2, containing 0.003% Tween, and 250 μM arachidonic acid.

Two types of 15-lipoxygenase (15-LO) have been discovered and characterized, both of which metabolize arachidonic acid (AA) to produce 15(S)-hydroxyicosatetraenoic acid (15(S)-HETE). 15-LO-1 oxygenates AA at both C-15 and C-12,¹ whereas 15-LO-2 exclusively oxygenates C-15 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

Cayman's human recombinant 15-LO-2 is expressed and purified from *E. coli*. The purity was determined using gel electrophoresis followed by coomassie staining. 15-LO-2 specific activity was established using arachidonic acid as the substrate and monitoring diene formation by measuring absorbance 236 nm.

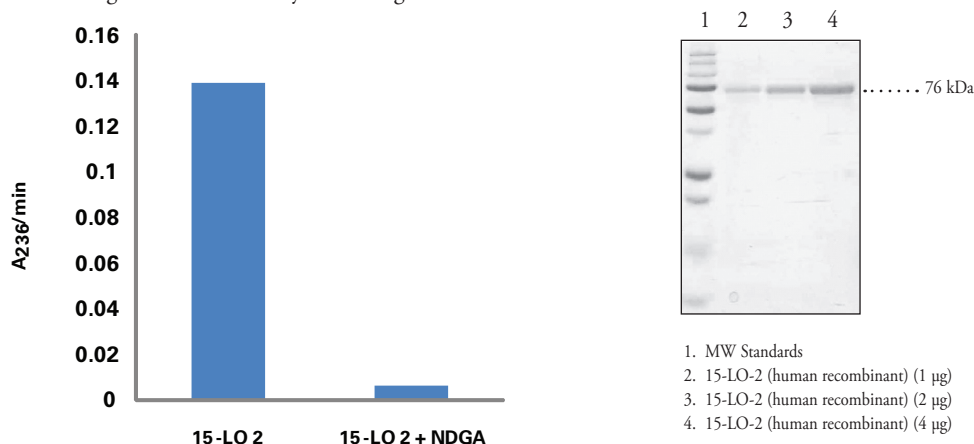


Figure 1: 15-LO-2 activity was determined using 50 μM arachidonic acid and was inhibited using 100 μM NDGA (Nordihydroguaiaretic acid Catalog No. 70300), a non-selective lipoxygenase inhibitor.

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com

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 under separate cover to the MSDS supervisor at your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees. Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 01/26/2009

Product Information



References

1. Kuhn, H., Barnett, J., Grunberger, D., *et al. Biophys. Acta* **1169**(1), 80-89 (1993).
2. Brash, A.R., Chang, M.S., and Boeglin, W.E. *Proc. Natl. Acad. Sci. USA* **94**, 6148-6152 (1997).
3. Kilty, I., Logan, A., and Vickers, P.J. *Eur. J. Biochem.* **266**, 83-93 (1999).
4. Tang, S., Bhatia, B., Maldonado, C.J., *et al. J. Biol. Chem.* **277**(18), 16189-16201 (2002).
5. Shappell, S.B., Boeglin, W.E., Olson, S.J., *et al. Am. J. Pathol.* **155**, 235-245 (1999).
6. Jack, G.S., Brash, A.R., Olson, S.J., *et al. Human Pathology* **31**(9), 1146-1154 (2000).

Related Products

15(S)-HETE - Cat. No. 34720 • 15(S)-HpETE - Cat. No. 44720 • 5-Lipoxygenase (human recombinant) - Cat. No. 60402 • 15-Lipoxygenase (soybean P1) - Purified - Cat. No. 60700 • Nordihydroguaiaretic Acid - Cat. No. 70300 • Arachidonic Acid - Cat. No. 90010 • Lipoxygenase Inhibitor Screening Assay Kit - Cat. No. 760700 • 15-Lipoxygenase-2 Polyclonal Antibody - Cat. No. 10004454

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com