

PRODUCT INFORMATION



15-Lipoxygenase-2 (human, recombinant)

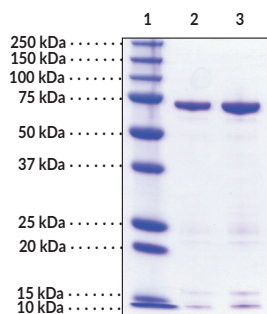
Item No. 10011263

Overview and Properties

Synonyms: 15-LO-2, 15-LOX-2
Source: Active human recombinant N-terminal T7-His-tagged protein expressed in *E. coli*
Uniprot No.: O15296
Molecular Weight: 78 kDa
Storage: -80°C (as supplied); Avoid freeze/thaw cycles by aliquoting the protein and storing at -80°C
Stability: ≥1 year
Purity: ≥85% estimated by SDS-PAGE
Supplied in: PBS, pH 7.5, with 1 mM DTT, 20% glycerol
Protein
Concentration: *batch specific* mg/ml
Activity: *batch specific* U/ml
Specific Activity: *batch specific* U/mg
Unit Definition: One 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, with 0.003% Polysorbate 20, and 250 μM arachidonic acid.

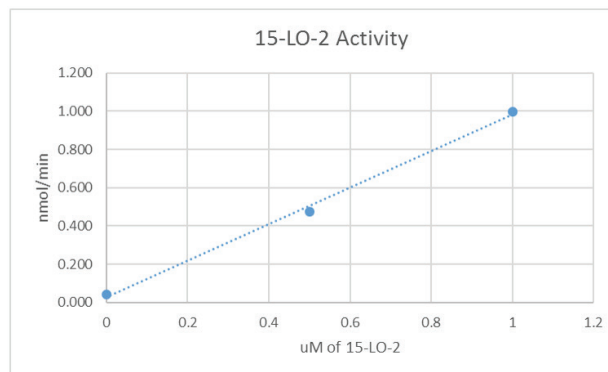
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: 15-LO-2 (human, recombinant) (1 μg)
Lane 3: 15-LO-2 (human, recombinant) (2 μg)

Representative gel image shown; actual purity may vary between each batch.



15-LO-2 activity was determined using 250 μM arachidonic acid (Item No. 90010).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Two types of 15-lipoxygenase (15-LO) have been discovered and characterized, both of which metabolize arachidonic acid (AA) to produce 15(S)-hydroxy eicosatetraenoic acid (15(S)-HETE). 15-LO-1 oxygenates AA at both C-15 and C-12, whereas 15-LO-2 exclusively oxygenates C-15 of AA.^{1,2} Human 15-LO-2 has a molecular mass of approximately 78 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 15-LO-2 (human, recombinant) 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.

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).
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