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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION

COX-1 (ovine)

Item No. 60100

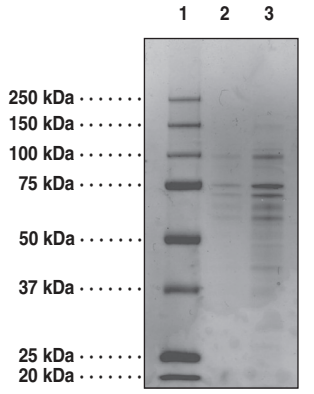
Overview and Properties

Synonyms: Constitutive Cyclooxygenase, Cyclooxygenase 1, Prostaglandin H Synthase 1 (PGHS-1), Prostaglandin Endoperoxide Synthase
Source: Ram seminal vesicles
Uniprot No.: P05979

Batch specific information can be found on the Certificate of Analysis or by contacting Technical Support

Molecular Weight: 70 kDa/subunit • Homodimer
Storage: -80°C (as supplied)
Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly
Supplied in: 80 mM Tris-HCl, pH 8.0, containing 0.3 mM DDC, 0.1% polysorbate 20, and 10% glycerol
Protein Concentration: ***batch specific*** mg/ml
Activity: ***batch specific*** U/ml
Specific Activity: ***batch specific*** U/mg
Unit Definition: One unit of enzyme consumes one nanomole of oxygen per minute at 37°C in 0.1 M Tris-HCl buffer, pH 8.0, containing 100 µM arachidonate, 5 mM EDTA, and 2 mM phenol, and 1 µM hematin. The cyclooxygenase activity of COX-1 was measured at 37°C by monitoring oxygen consumption using a Gilson Model 5/6 H oxygraph equipped with a Clark oxygen electrode.

Image



Lane 1: MW Markers
Lane 2: COX1 (2 µg)
Lane 3: COX1 (5 µg)

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PRODUCT INFORMATION

Description

The enzyme preparation contains diethyldithiocarbamate (DDC) as a preservative. If this preservative is undesirable, it can be removed by standard desalting procedures. However, the enzyme is extremely unstable in the absence of the preservative and should be used within one hour. In the event that only a portion of the enzyme is to be used in a single experiment, it is recommended that the enzyme be aliquoted into smaller sizes and frozen at -80°C. COX-1 is relatively unstable at room temperature. Hence, to prevent loss of activity when performing experiments, keep the stock vial of the enzyme on ice (0-4°C) at all times.

COX-1 contains Fe^{3+}-protoporphyrin IX as a cofactor which may dissociate from the protein during purification resulting in a mixture of apo- and holo-enzymes. Add hematin to the reaction mixture (1 µM final concentration) to obtain maximal enzyme activity.

COX-1 catalyzes the first step in the biosynthesis of prostaglandins (PGs), thromboxanes, and prostacyclins: the conversion of arachidonic acid to PGH_2. COX-1 is constitutively expressed in almost all animal tissues and is involved in the homeostatic role of eicosanoids.[1-2] COX-1 from ram seminal vesicles has an apparent K_m value of 8.3 µM for arachidonic acid.[3]

References

1. Smith, W.L. and Marnett, L.J. Prostaglandin endoperoxide synthase: Structure and catalysis. *Biochim. Biophys. Acta* **1083**, 1-17 (1991).
2. Marnett, L.J. and Maddipati, K.R. Prostaglandin H synthase, Chapter 13, *in* Peroxidases in Biology, Vol. 1. Everse, J., Everse, K.E., and Grisham, M.B., editors. pp. 293-334, CRC Press, Inc., Boca Raton 293-334 (1991).
3. Johnson, J.L., Wimsatt, J., Buckel, S.D., *et al.* Purification and characterization of prostaglandin H synthase-2 from sheep placental cotyledons. *Arch. Biochem. Biophys.* **324**, 26-34 (1995).

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