

COX Activity Assay Kit

Cat. No. Kit-0252 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

COX Activity Assay Kit measures the peroxidase activity of COX. The peroxidase activity is assayed colorimetrically by monitoring the appearance of oxidized N,N,N',N'-tetramethyl-p-phenylenediamine (TMPD) at 590 nm. It can be used with both crude (cell lysates/tissue homogenates) and purified enzyme preparations. The kit includes isozymespecific inhibitors for distinguishing COX-2 activity from COX-1 activity.

Description

Cyclooxygenase (COX, also called prostaglandin H Synthase or PGHS) is a bifunctional enzyme exhibiting both cyclooxygenase and peroxidase activities. The cyclooxygenase component converts arachidonic acid to a hydroperoxy endoperoxide (Prostaglandin G₂; PGG₂), and the peroxidase component reduces the endoperoxide to the corresponding alcohol (prostaglandin H₂; PGH₂), the precursor of prostaglandins, thromboxanes, and prostacyclins. It is now well established that there are two distinct isoforms of cyclooxygenase. COX-1 is constitutively expressed in a variety of cell types and is involved in normal cellular homeostasis. A variety of mitogenic stimuli such as phorbol esters, lipopolysaccharides, and cytokines lead to the induced expression of a second isoform of COX, COX-2. COX-2 is responsible for the biosynthesis of prostaglandins under acute inflammatory conditions. This inducible COX-2 is believed to be the target enzyme for the anti-inflammatory activity of nonsteroidal anti-inflammatory drugs.

Usage

Please read these instructions carefully before beginning this assay. For research use only. Not for human or diagnostic use.

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Storage

Stability: 1 year;Storage: -80°C;This kit will perform as specified if stored as directed and used before the expiration date indicated on the outside of the box.

Kit Components

Kit components may be stored at -80°C prior to use. After opening kit, we recommend each kit component be stored according to the temperature listed below. Assay Buffer (10X): 1 vial, -20°C; Heme: 1 vial, -80°C; COX Standard: 1 vial, -80°C; Arachidonic Acid (substrate): 1 vial -20°C; Potassium Hydroxide: 1 vial, -20°C; Colorimetric Substrate: 1 vial, -20°C; DuP-697 Assay Reagent: 1 vial, -20°C; SC-560 Assay Reagent: 1 vial, -20°C; 96-Well Plate: 1 plate, Room temperature; 96-Well Cover Sheet: 1 cover, Room temperature

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