

## Cyclooxygenase 2 from Human, Recombinant

Cat. No. NATE-1238

Lot. No. (See product label)

### Introduction

**Description** Cyclooxygenase 2 (COX-2) catalyzes the first step in the biosynthesis of prostaglandins (PGs), thromboxanes, and prostacyclins: The conversion of arachidonic acid to PGH<sub>2</sub>. Discoveries of the induction of COX expression by a variety of stimuli such as phorbol esters, lipopolysaccharides, and cytokines led to the hypothesis that the inducible form of COX, COX-2, is responsible for the biosynthesis of PGs under acute inflammatory conditions. Thus, COX-2 has become the focus of attention for the nonsteroidal anti-inflammatory drug (NSAID) development. Human recombinant COX-2 contains a six residue histidine sequence (His-tag) near the amino terminus. The His-tag enzyme, which has a K<sub>m</sub> value for arachidonate of 6.5 μM, exhibits enzyme activity and sensitivity to NSAIDs similar to the non-tagged enzyme.

**Synonyms** Cyclooxygenase 2; Inducible Cyclooxygenase Prostaglandin H Synthase 2; COX-2

### Product Information

**Species** Human

**Source** Sf21 cells

**Molecular Weight** 70 kDa

**Activity** >8,000 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, 2 mM phenol, and 1 μM hematin. The cyclooxygenase activity of COX-2 was measured at 37°C by monitoring oxygen consumption using a Gilson Model 5/6 H oxygraph equipped with a Clark oxygen electrode.

### Storage and Shipping Information

**Storage** -80°C (as supplied)

**Stability** > 6 months