

Cyclooxygenase in GtoPdb v.2025.3

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Abstract

Prostaglandin (PG) G/H synthase, most commonly referred to as cyclooxygenase (COX, (5Z,8Z,11Z,14Z)-icosa-5,8,11,14-tetraenoate,hydrogen-donor : oxygen oxidoreductase) activity, catalyses the formation of **PGG₂** from **arachidonic acid**. Hydroperoxidase activity inherent in the enzyme catalyses the formation of **PGH₂** from **PGG₂**. COX-1 and -2 can be nonselectively inhibited by **ibuprofen**, **ketoprofen**, **naproxen**, **indomethacin** and **paracetamol** (acetaminophen). **PGH₂** may then be metabolised to prostaglandins and thromboxanes by various prostaglandin synthases in an apparently tissue-dependent manner.

Contents

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Database links

Cyclooxygenase

<https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=269>

Enzymes

COX-1

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1375>

COX-2

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1376>

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