Cyclooxygenase

Cyclooxygenase (COX), officially known as prostaglandin-endoperoxide synthase (PTGS), is an enzyme (EC 1.14.99.1) that is responsible for the formation of prostanoids, including prostaglandins, prostacyclin and thromboxane.

The abbreviation “COX” is more often encountered in medicine. In genetics, the “PTGS” symbol is officially used for the prostaglandin-endoperoxide synthase (cyclooxygenase) family of genes and proteins, because the stem “COX” was already used for the cytochrome c oxidase family of genes and proteins.

Pharmacological inhibition of COX can provide relief from the symptoms of inflammation and pain. Non-steroidal anti-inflammatory drugs (NSAID), such as aspirin and ibuprofen, exert their effects through inhibition of COX. The names “prostaglandin synthase (PHS)” and “prostaglandin endoperoxide synthetase (PES)” are still used to refer to COX.

The recurrence rate of cSDH seems to be related to the excessive neoangiogenesis in the parietal membrane, which is mediated via vascular endothelial growth factor (VEGF). This is found to be elevated in the haematoma fluid and is dependent on eicosanoid/prostaglandin and thromboxane synthesis via cyclooxygenase 2 (COX2).

Cyclooxygenase-1

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