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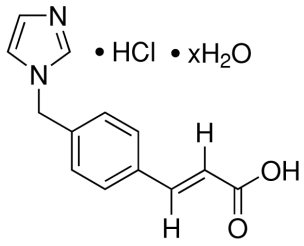
Product Information

Ozagrel hydrochloride hydrate

Catalog Number **O1385**
Store at Room Temperature

CAS RN 78712-43-3
Synonyms: OKY-046; (E)-3-[4-(Imidazol-1-ylmethyl) phenyl]propenoic acid hydrochloride hydrate



Product Description

Molecular Formula: $C_{13}H_{12}N_2O_2 \cdot HCl \cdot xH_2O$
Molecular Weight: 264.71 (anhydrous)

Thromboxane A_2 (TXA_2) and prostacyclin (PGI_2) are two labile arachidonate metabolites derived from the cyclooxygenase (COX) pathway. TXA_2 exhibits two major activities: stimulation of platelet function and contraction of smooth muscle. These activities result in platelets aggregation, vasoconstriction, and bronchoconstriction. In addition, TXA_2 plays a role in the mitogenesis of smooth muscle cells and in apoptosis of renal tubule cells.[1] The overproduction of TXA_2 that contributes to the pathology of many diseases is accompanied by stimulation of prostacyclin (PGI_2) production. PGI_2 is one of the most potent inhibitors of platelet aggregation and smooth muscle contraction. Thus a compound that blocks the overproduction of TXA_2 without affecting PGI_2 synthesis may have therapeutic potential in atherosclerosis and in diseases characterized by vasospasm or bronchospasm.

Ozagrel is an imidazole derivative that inhibits TXA_2 biosynthesis by inhibiting TXA_2 synthetase activity. Inhibition of this pathway does not affect PGI_2 production. Laboratory studies indicate that inhibition of TXA_2 synthesis *in vivo* also blocks platelet aggregation, bronchoconstriction, and vasoconstriction in animal models. For example, ozagrel inhibits the formation of atherosclerotic plaques in aortic grafts in rat.[2] Inhalation of capsaicin by guinea pigs induces TXA_2 production and coughing. Pretreatment with ozagrel reduces the cough response.[3] Ozagrel preserved cerebral blood flow in mouse and cat models of transient cerebral ischemia.[4]

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Ozagrel is soluble in water.

Storage/Stability

Store at room temperature tightly sealed under argon.

References

1. Dogne, J.M., et al., Curr. Med. Chem., **7**, 609-628 (2000).
2. Hirano, T., et al., Surgery, **129**, 595-605 (2001).
3. Shinagawa, K., et al., Br. J. Pharmacol., **131**, 266-270 (2000).
4. Ichikawa, K., et al., Pharmacology, 59, 257-265 (1999).

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