Product Information

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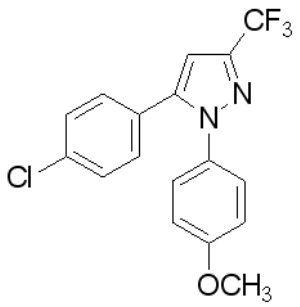
SC-560

Catalog Number **S2064**
Storage Temperature 2–8 °C

CAS RN 188817-13-2
Synonyms: 5-(4-Chlorophenyl)-1-(4-methoxyphenyl)-3-trifluoromethyl pyrazole



Product Description
Molecular Formula: $C_{17}H_{12}ON_2ClF_3$
Formula Weight: 352.74

SC-560 is novel, potent, and highly selective inhibitor of cyclooxygenase-1 (COX-1). The enzymes COX-1 and COX-2 catalyze the conversion of arachidonic acid to prostaglandin H_2 (PGH_2), the precursor of other PGs and thromboxane.[1] These lipid mediators play important roles in inflammation and pain, as well as in normal physiological functions.

Conventional non-steroidal anti-inflammatory drugs (NSAIDs) inhibit both COX enzymes and exhibit anti-inflammatory and analgesic effects.[2,3] However, experiments in rat models *in vivo* have shown that NSAIDs cause significant gastric damage resulting from increased gastric blood flow and leukocyte adherence to endothelium.[4]

SC-560 is a member of diaryl heterocycle class of COX inhibitors that, unlike other members of this class, is highly selective for COX-1, with an IC_{50} of 9 nM. The corresponding value for COX-2 is 6.3 μM. Thus, SC-560 shows a 700-fold selectivity for COX-1 over COX-2. In rats, SC-560 inhibited COX-1-derived platelet thromboxane B_2, gastric PGE_2, and dermal PGE_2 production. Administration of SC-560 in the rat footpad did not affect acute inflammation or hyperalgesia. These results suggest that the anti-inflammatory and analgesic effects of NSAIDs require the inhibition of both COX-1 and COX-2.

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
SC-560 is soluble in DMSO at >20 mg/mL. It is insoluble in water.

Storage/Stability
Store desiccated at 2–8 °C.

References
1. Smith, C.J., et al., Pharmacological analysis of cyclooxygenase-1 in inflammation. Proc. Natl. Acad. Sci. USA, **95**, 13313-13318 (1998).
2. Ventura, M.R., et al., Role of COX-1 and COX-2-synthesized prostaglandins in a rat model of arthritic pain. Mex. Drug Dev. Res., **51**, 253-259 (2000).
3. Richter, M., et al., Growth inhibition and induction of apoptosis in colorectal tumor cells by cyclooxygenase inhibitors. Carcinogenesis, **22**, 17-25 (2001).
4. Wallace, J.L., et al., NSAID-induced gastric damage in rats: requirements for inhibition of both cyclooxygenase 1 and 2. Gastroenterology, **119**, 706-714 (2000).

DXP,MAM 2/08-1

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