SR 2640

Product Number S 7690
Storage Temperature: 2–8 °C

CAS#: 105350-26-3
Synonym: Benzoic acid, 2-[[3-(2-quinolinylmethoxy)phenyl]amino]-QMPB

N
O
H
CO 2 H

Product Description
Molecular Formula: C₂₃H₁₈N₂O₃
Molecular Weight: 370.41
Appearance: yellow powder with a tan cast
Purity: 99%

Leukotrienes exist as two distinct classes, hydroxyacids such as LTB₄, and cysteinyl leukotrienes such as LTC₄, LTD₄ and LTE₄. Leukotriene (LT) receptors are classified accordingly into BLT and CysLT types. Recently cloned LT receptors BLT₁, CysLT₁ and CysLT₂ are members of the G protein-coupled receptor superfamily. They may couple via Gq/11 and modulate inositol phospholipid hydrolysis and calcium mobilization. CysLT receptors mediate such pro-inflammatory events as constriction of airways and vascular smooth muscle, increased endothelial membrane permeability leading to plasma exudation and edema, and an enhanced secretion of viscous mucus. They have been implicated in range of inflammatory diseases, especially in asthma.

SR 2640 is a subtype-specific CysLT₁ leukotriene receptor antagonist, which is used as a tool to study pro-inflammatory responses. CysLT₁ receptor is activated by LTC₄ and LTD₄ resulting in calcium mobilization.

In a guinea pig model of ileum and trachea contractions, SR 2640 inhibited, in a concentration-dependent manner, the binding of 0.4 nM [³H] LTD₄ to guinea pig-lung membrane with an IC₅₀ value of 23 nM, resulting in inhibition of bronchoconstriction.¹ In human polymorphonuclear neutrophils (PMN), LTD₄ increases the level of free intracellular Ca²⁺ and production of inositol phosphates. SR 2640 inhibits both effects, suggesting that human PMNs contain the LTD₄ receptor.²

SR 2640 selectively inhibits migration of canine PMNs towards LTB₄ (100 nM) with an IC₅₀ value of 38 nM.³ In vivo model of chronic inflammatory bowel disease, SR2640 reduced inhibitory effects of LTD₄ on LTB₄-directed chemotaxis of PMN by acting as a systemic LTD₄ receptor antagonist.⁴

Preparation Instructions
SR 2640 is soluble in DMSO at 50 mg/ml.

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

References