

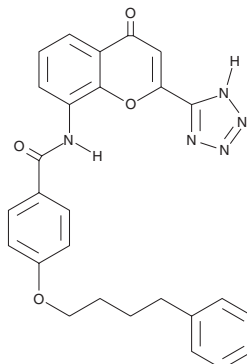
PRODUCT INFORMATION



Pranlukast

Item No. 10008319

CAS Registry No.: 103177-37-3
Formal Name: N-[4-oxo-2-(1H-tetrazol-5-yl)-4H-1-benzopyran-8-yl]-4-(4-phenylbutoxy)-benzamide
Synonyms: ONO-RS-411, ONO-1078
MF: C₂₇H₂₃N₅O₄
FW: 481.5
Purity: ≥98%
UV/Vis.: λ_{max}: 255, 315 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Pranlukast is supplied as a crystalline solid. A stock solution may be made by dissolving the pranlukast in the solvent of choice, which should be purged with an inert gas. Pranlukast is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of pranlukast in these solvents is approximately 10 and 20 mg/ml, respectively.

Pranlukast is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pranlukast should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Pranlukast has a solubility of approximately 5 mg/ml in a 1:8 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Pranlukast is an orally bioavailable cysteinyl leukotriene 1 (CysLT₁) receptor antagonist (IC₅₀s = 4.3-7.2 nM in radioligand binding assays).¹ It is selective for the CysLT₁ receptor over the CysLT₂ receptor (IC₅₀ = 3,620 nM for the human receptor).² Pranlukast inhibits mucus secretion induced by leukotriene D₄ (LTD₄; Item No. 20310) in isolated guinea pig trachea with an IC₅₀ value of 0.3 μM.³ It inhibits TNF-α-induced NF-κB p65 nuclear localization in U937 and Jurkat cells when used at concentrations of 10 and 100 μM.⁴ Pranlukast inhibits bronchoconstriction induced by LTC₄ (Item No. 20210), LTD₄, and LTE₄ (Item No. 20410), but not LTB₄ (Item No. 20110), in guinea pigs (ID₅₀s = 0.8, 1, 0.7, and >500 μg/kg, respectively).⁵ It reduces cortical infarct volume by 81.6% and decreases neuronal death in the cortex, hippocampus, and striatum in a rat model of ischemia induced by middle cerebral artery occlusion (MCAO) when administered at a dose of 0.03 mg/kg.⁶

References

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2. Heise, C.E., O'Dowd, B.F., Figueroa, D.J., *et al.* *J. Biol. Chem.* **275**(39), 30531-30536 (2000).
3. Liu, Y.-C., Khawaja, A.M., and Rogers, D.F. *Br. J. Pharmacol.* **124**(3), 563-571 (1998).
4. Ichiyama, T., Hasegawa, S., Umeda, M., *et al.* *Clin. Exp. Allergy* **33**(6), 802-807 (2003).
5. Nakai, H., Konno, M., Kosuge, S., *et al.* *J. Med. Chem.* **31**(1), 84-91 (1988).
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WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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