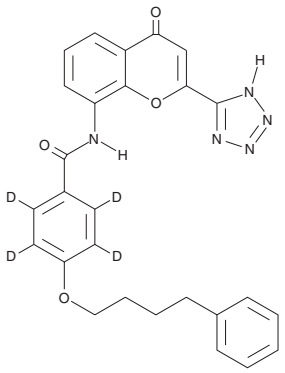
PRODUCT INFORMATION

Pranlukast-d_4

Item No. 28709

CAS Registry No.:	2713172-43-9
Formal Name:	N-[4-oxo-2-(1H-tetrazol-5-yl)-4H-1-benzopyran-8-yl]-4-(4-phenylbutoxy)-benzamide-d_4
MF:	$C_{27}H_{19}D_4N_5O_4$
FW:	485.5
Chemical Purity:	≥98% (Pranlukast)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as:	A 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-d_4 is intended for use as an internal standard for the quantification of pranlukast (Item No. 10008319) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Pranlukast-d_4 is supplied as a solid. A stock solution may be made by dissolving the pranlukast-d_4 in the solvent of choice, which should be purged with an inert gas. Pranlukast-d_4 is soluble in DMSO.

Description

Pranlukast is an orally bioavailable cysteinyl leukotriene 1 ($CysLT_1$) receptor antagonist (IC_{50}s = 4.3-7.2 nM in radioligand binding assays).[1] It is selective for the $CysLT_1$ receptor over the $CysLT_2$ receptor (IC_{50} = 3,620 nM for the human receptor).[2] Pranlukast inhibits mucus secretion induced by leukotriene D_4 (LTD_4; Item No. 20310) in isolated guinea pig trachea with an IC_{50} 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 LTC_4 (Item No. 20210), LTD_4, and LTE_4 (Item No. 20410), but not LTB_4 (Item No. 20110), in guinea pigs (ID_{50}s = 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

1. Lynch, K.R., O'Neill, G.P., Liu, Q., *et al. Nature* **399(6738)**, 789-793 (1999).
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).
6. Zhang, W.-P., Wei, E.-Q., Mei, R.-H., *et al. Acta Pharmacol. Sin.* **23(10)**, 871-877 (2002).

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.

WARRANTY AND LIMITATION OF REMEDY
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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM