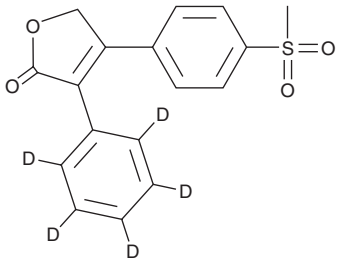
PRODUCT INFORMATION

Rofecoxib-d_5

Item No. 28900

CAS Registry No.:	544684-93-7
Formal Name:	4-[4-(methylsulfonyl)phenyl]-3-(phenyl-d_5)-2(5H)-furanone
MF:	$C_{17}H_9D_5O_4S$
FW:	319.4
Chemical Purity:	≥98% (Rofecoxib)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_5); ≤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

Rofecoxib-d_5 is intended for use as an internal standard for the quantification of rofecoxib (Item No. 10010260) 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).

Rofecoxib-d_5 is supplied as a solid. A stock solution may be made by dissolving the rofecoxib-d_5 in the solvent of choice, which should be purged with an inert gas. Rofecoxib-d_5 is soluble in organic solvents such as DMSO and acetonitrile.

Description

Rofecoxib is a non-steroidal anti-inflammatory drug (NSAID) that selectively inhibits COX-2 over COX-1 with IC_{50} values of 0.018 and >15 µM, respectively, for production of prostaglandin E_2 (PGE_2; Item No. 14010) in CHO cells expressing the recombinant human enzymes.[1] *In vivo*, rofecoxib inhibits carrageenan-induced paw edema and hyperalgesia (ID_{50}s = 1.5 and 1.0 mg/kg, respectively), LPS-induced pyresis (ID_{50} = 0.24 mg/kg), and *M. butyricum*-induced arthritis (ID_{50} = 0.74 mg/kg per day) in rats. Formulations containing rofecoxib were previously used in the treatment of pain and arthritis.

Reference

1. Chan, C.C., Boyce, S., Brideau, C., *et al.* Rofecoxib [Vioxx, MK-0966; 4-(4'-methylsulfonylphenyl)-3-phenyl-2-(5H)-furanone]: A potent and orally active cyclooxygenase-2 inhibitor. Pharmacological and biochemical profiles. *J. Pharmacol. Exp. Ther.* **290(2)**, 551-560 (1999).

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