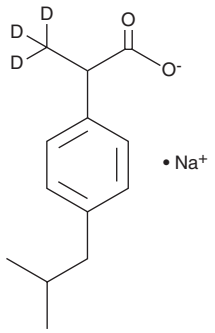
PRODUCT INFORMATION

(±)-Ibuprofen-d_3 (sodium salt)

Item No. 36332

CAS Registry No.:	1219805-09-0
Formal Name:	(±)-α-methyl-4-(2-methylpropyl)-benzeneacetic acid-d_3, monosodium salt
Synonym:	DL-Ibuprofen-d_3
MF:	$C_{13}H_{14}D_3O_2 \bullet Na$
FW:	231.3
Chemical Purity:	≥98% ((±)-Ibuprofen)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤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

(±)-Ibuprofen-d_3 (sodium salt) is intended for use as an internal standard for the quantification of (±)-ibuprofen (Item No. 70280) 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).

(±)-Ibuprofen-d_3 (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the (±)-ibuprofen-d_3 (sodium salt) in the solvent of choice, which should be purged with an inert gas. (±)-Ibuprofen-d_3 (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (±)-ibuprofen-d_3 (sodium salt) in ethanol and DMSO is approximately 50 mg/ml and approximately 30 mg/ml in DMF.

Description

(±)-Ibuprofen is a non-steroidal anti-inflammatory drug (NSAID) and non-selective COX inhibitor (IC_{50}s = 2.6 and 1.3 µM for human recombinant COX-1 and COX-2, respectively).[1] *In vivo*, (±)-ibuprofen inhibits late-phase formalin-induced paw licking in mice (ED_{50} = 6.1 mg/kg).[2] It also inhibits acetic acid-induced writhing in mice (ED_{50} = 0.47 mg/kg). Formulations containing (±)-ibuprofen have been used in the treatment of fever and mild to severe pain.

References

1. Johnson, J.L., Wimsatt, J., Buckel, S.D., *et al.* Purification and characterization of prostaglandin H synthase-2 from sheep placental cotyledons. *Arch. Biochem. Biophys.* **324(1)**, 26-34 (1995).
2. Seguin, L., Le Marouille-Girardon, S., and Millan, M.J. Antinociceptive profiles of non-peptidergic neurokinin$_1$ and neurokinin$_2$ receptor antagonists: A comparison to other classes of antinociceptive agent. *Pain* **61(2)**, 325-343 (1995).

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