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- Expressversand

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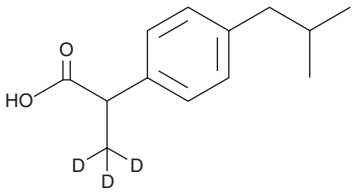
PRODUCT INFORMATION

(±)-Ibuprofen-d_3

Item No. 18255

CAS Registry No.:	121662-14-4
Formal Name:	α-(methyl-d_3)-4-(2-methylpropyl)-benzeneacetic acid
Synonym:	DL-Ibuprofen-d_3
MF:	$C_{13}H_{15}D_3O_2$
FW:	209.3
Chemical Purity:	≥98% Ibuprofen
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤1% d_0
Stability:	≥2 years at -20°C
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max}: 212, 219, 263 nm



Laboratory Procedures

(±)-Ibuprofen-d_3 contains three deuterium atoms located on the methyl group. It is intended for use as an internal standard for the quantification of ibuprofen (Item No. 70280) by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that (±)-ibuprofen-d_3 be stored as supplied at -20°C. It should be stable for at least two years.

(±)-Ibuprofen-d_3 is supplied as a crystalline solid. A stock solution may be made by dissolving the (±)-ibuprofen-d_3 in the solvent of choice. (±)-Ibuprofen-d_3 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of (±)-ibuprofen-d_3 in these solvents is approximately 60, 50, and 45 mg/ml, respectively.

(±)-Ibuprofen-d_3 is used as an internal standard for the quantification of ibuprofen by stable isotope dilution 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).

Description

Ibuprofen is a non-selective, reversible COX inhibitor. The IC_{50} values for human recombinant COX-1 and -2 are 2.6 and 1.53 µM, respectively.[1] The K_i value for ovine COX-1 and -2 is 9 µM.[2]

References

1. Barnett, J., Chow, J., Ives, D., *et al.* Purification, characterization and selective inhibition of human prostaglandin G/H synthase 1 and 2 expressed in the baculovirus system. *Biochim. Biophys. Acta* **1209**, 130-139 (1994).
2. 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**, 26-34 (1995).

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