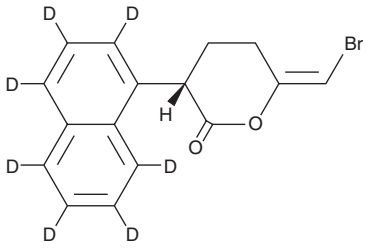
PRODUCT INFORMATION

(S)-Bromoenol lactone-d_7

Item No. 10535

Formal Name:	6E-(bromoethylene)tetrahydro-3S-(1-naphthalenyl-2,3,4,5,6,7,8-d_7)-2H-pyran-2-one
Synonym:	(S)-BEL-d_7
MF:	$C_{16}H_6BrD_7O_2$
FW:	324.2
Chemical Purity:	≥98% ((S)-Bromoenol lactone)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_7); ≤1% d_0
UV/Vis.:	λ_{max}: 280 nm
Supplied as:	A solution in methyl acetate
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

(S)-Bromoenol lactone-d_7 ((S)-BEL-d_7) is intended for use as an internal standard for the quantification of (S)-BEL 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).

(S)-BEL-d_7 is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of (S)-BEL-d_7 in these solvents is approximately 5, 25, and 50 mg/ml, respectively.

Description

The phospholipases are an extensive family of lipid hydrolases that function in cell signaling, digestion, membrane remodeling, and as venom components.[1] The calcium-independent phospholipase A_2 (iPLA$_2$) are a PLA$_2$ subfamily closely associated with the release of arachidonic acid in response to physiologic stimuli. (S)-BEL) is an irreversible, chiral, mechanism-based inhibitor of iPLA$_2$β that inhibits the vasopressin-induced release of arachidonate from cultured rat aortic smooth muscle (A10) cells with an IC_{50} value of 2 µM.[2] (S)-BEL is more than 1,000-fold selective for iPLA$_2$ *versus* cPLA$_2$, and is 10-fold selective for iPLA$_2$β versus iPLA$_2$γ.

References

1. Balsinde, J., Balboa, M.A., Insel, P.A., *et al.* Regulation and inhibition of phospholipase A_2. *Annu. Rev. Pharmacol. Toxicol.* **39**, 175-189 (1999).
2. Jenkins, C.M., Han, X., Mancuso, D.J., *et al.* Identification of calcium-independent phospholipase A_2 (iPLA$_2$) *β*, and not iPLA$_2$γ, as the mediator of arginine vasopressin-induced arachidonic acid release in A-10 smooth muscle cells. *J. Biol. Chem.* **277(36)**, 32807-32814 (2002).

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