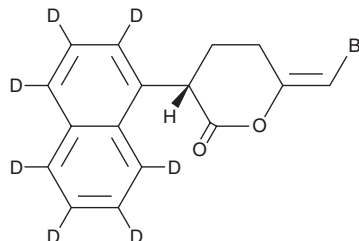


# Product Information



## (S)-Bromoenol lactone-d<sub>7</sub> Catalog No. 10535

**Formal Name:** 6E-(bromoethylene)tetrahydro-3S-(1-naphthalenyl-2,3,4,5,6,7,8-d<sub>7</sub>)-2H-pyran-2-one  
**Synonym:** (S)-BEL-d<sub>7</sub>  
**MF:** C<sub>16</sub>H<sub>6</sub>BrD<sub>7</sub>O<sub>2</sub>  
**FW:** 324.2  
**Chemical Purity:** ≥98%  
**Deuterium Incorporation:** ≤1% d<sub>0</sub>  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in methyl acetate



### Laboratory Procedures

(S)-Bromoenol lactone-d<sub>7</sub> ((S)-BEL-d<sub>7</sub>) contains seven deuterium atoms at the 2, 3, 4, 5, 6, 7, and 8 positions. It is intended for use as an internal standard for the quantification of (S)-BEL by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that (S)-BEL-d<sub>7</sub> be stored as supplied at -20°C. It should be stable for at least one year.

(S)-BEL-d<sub>7</sub> 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<sub>7</sub> in these solvents is approximately 5, 25, and 50 mg/ml, respectively.

(S)-BEL-d<sub>7</sub> is used as an internal standard for the quantification of (S)-BEL 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).

The phospholipases are an extensive family of lipid hydrolases that function in cell signaling, digestion, membrane remodeling, and as venom components.<sup>1</sup> The calcium-independent phospholipase A<sub>2</sub> (iPLA<sub>2</sub>) are a PLA<sub>2</sub> 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<sub>2β</sub> that inhibits the vasopressin-induced release of arachidonate from cultured rat aortic smooth muscle (A10) cells with an IC<sub>50</sub> value of 2 μM.<sup>2</sup> (S)-BEL is more than 1,000-fold selective for iPLA<sub>2</sub> *versus* cPLA<sub>2</sub>, and is 10-fold selective for iPLA<sub>2β</sub> *versus* iPLA<sub>2γ</sub>.

### References

1. Balsind, J., Balboa, M.A., Insel, P.A., *et al.* Regulation and inhibition of phospholipase A<sub>2</sub>. *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<sub>2</sub> (iPLA<sub>2</sub>) β, and not iPLA<sub>2γ</sub>, as the mediator of arginine vasopressin-induced arachidonic acid release in A-10 smooth muscle cells. *J. Biol. Chem.* **277(36)**, 32807-32814 (2002).

### Related Products

(R)-Bromo enol lactone-d<sub>7</sub> - Cat. No. 10534 • Bromo enol lactone - Cat. No. 70700 • (R)-Bromo enol lactone - Cat. No. 10006800 • (S)-Bromo enol lactone - Cat. No. 10006801 • Bromo enol lactone-d<sub>7</sub> - Cat. No. 9000528

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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