



# SZABO SCANDIC

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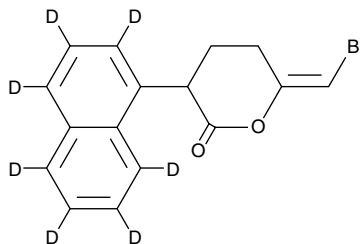
# Product Information



## Bromo-enol lactone-d<sub>7</sub>

Item No. 9000528

**Formal Name:** 6E-(bromomethylene)tetrahydro-3-(1-naphthalenyl-2,3,4,5,6,7,8-d<sub>7</sub>)-2H-pyran-2-one  
**Synonyms:** BEL-d<sub>7</sub>, Haloenol lactone-d<sub>7</sub>, HELSS-d<sub>7</sub>  
**MF:** C<sub>16</sub>H<sub>6</sub>D<sub>7</sub>BrO<sub>2</sub>  
**FW:** 324.2  
**Chemical Purity:** ≥98%  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>7</sub>); ≤1% d<sub>0</sub>  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in methyl acetate  
**UV/Vis.:** λ<sub>max</sub>: 223, 280 nm



### Laboratory Procedures

Bromo-enol lactone-d<sub>7</sub> (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 BEL by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that BEL-d<sub>7</sub> be stored as supplied at -20°C. It should be stable for at least one year.

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

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

BEL is a selective, potent, irreversible, mechanism-based inhibitor of myocardial cytosolic calcium-independent phospholipase A<sub>2</sub> (iPLA<sub>2</sub>) with a K<sub>i</sub> value of 180 nM.<sup>1</sup> It also inhibits macrophage iPLA<sub>2</sub> in a concentration-dependent manner with an IC<sub>50</sub> value of 60 nM and is an effective enzyme-activated irreversible inhibitor of chymotrypsin (K<sub>i</sub> = 636 nM).<sup>2,3</sup>

### References

1. Hazen, S.L., Zupan, L.A., Weiss, R.H., *et al.* Suicide inhibition of canine myocardial cytosolic calcium-independent phospholipase A<sub>2</sub>. *J. Biol. Chem.* **266**, 7227-7232 (1991).
2. Ackermann, E.J., Conde-Frieboes, K., and Dennis, E.A. Inhibition of macrophage Ca<sup>2+</sup>-independent phospholipase A<sub>2</sub> by bromoenol lactone and trifluoromethyl ketones. *J. Biol. Chem.* **270**, 445-450 (1995).
3. Daniels, S.B., Cooney, E., Sofia, M.J., *et al.* Haloenol Lactones. Potent enzyme-activated irreversible inhibitors for α-chymotrypsin. *J. Biol. Chem.* **258**, 15046-15053 (1983).

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