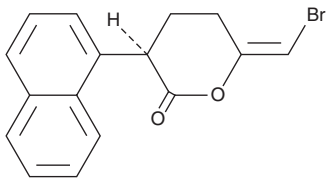
PRODUCT INFORMATION

(R)-Bromoenol lactone

Item No. 10006800

CAS Registry No.:	478288-90-3
Formal Name:	6E-(bromoethylene)tetrahydro-3R-(1-naphthalenyl)-2H-pyran-2-one
Synonym:	(R)-BEL
MF:	$C_{16}H_{13}BrO_2$
FW:	317.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 222, 280 nm
Supplied as:	A solution in methyl acetate
Storage:	-20°C
Stability:	≥1 year



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

Laboratory Procedures

(R)-Bromoenol lactone ((R)-BEL) 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 (R)-BEL in these solvents is approximately 5, 25, and 50 mg/ml, respectively.

(R)-BEL is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of (R)-BEL should be diluted with the aqueous buffer of choice. The solubility of (R)-BEL in PBS (pH 7.2) is approximately 0.05 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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 phospholipases ($iPLA_2$) are a PLA_2 subfamily closely associated with the release of arachidonic acid in response to physiologic stimuli. (R)-BEL is an irreversible, chiral, mechanism-based inhibitor of calcium-independent phospholipase γ ($iPLA_2\gamma$). Unlike (S)-BEL, (R)-BEL does not inhibit $iPLA_2\beta$ except at high doses of 20-30 µM.[2] (R)-BEL inhibits human recombinant $iPLA_2\gamma$ with an IC_{50} of approximately 0.6 µM.

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 $iPLA_2\gamma$, 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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