Bromoenol lactone

Cat. No.: HY-107411

CAS No.: 88070-98-8

Molecular Formula: $C_{16}H_{13}BrO_2$

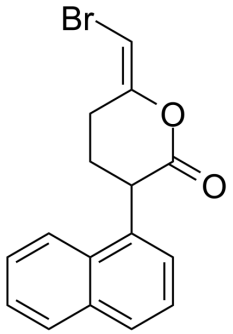
Molecular Weight: 317.18

Target: Phospholipase

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (157.64 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1528 mL	15.7639 mL	31.5278 mL
	5 mM	0.6306 mL	3.1528 mL	6.3056 mL
	10 mM	0.3153 mL	1.5764 mL	3.1528 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (7.88 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (7.88 mM); Clear solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.88 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bromoenol lactone ((6E)-Bromoenol lactone) is a suicide-based irreversible, selective, potent inhibitor of calcium-independent phospholipase A_2 (iPLA$_2$β) with an IC_{50} value of approximately 7 μM, which inhibits antigen-stimulated mast cell exocytosis without blocking Ca^{2+} influx[1][2].

IC_{50} & Target

PLA2
7 μM (IC_{50})

In Vitro

In RBL 2H3 and bone marrow-derived mast cells (BMMCs), Ca^{2+} entry is critical for exocytosis. Bromoenol lactone inhibits

exocytosis when stimulated using a Ca^{2+} ionophore A23187, which passively transports Ca^{2+} down a concentration gradient and also in permeabilised mast cells where Ca^{2+} entry is no longer relevant. Moreover, Bromoenol lactone has only a minor effect on antigen- or thapsigargin-stimulated Ca^{2+} signalling, both the release from internal stores and sustained elevation due to Ca^{2+} influx[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Genomics. 2022 Sep 5;114(5):110479.

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REFERENCES

[1]. Fensome-Green A, et al. Bromoenol lactone, an inhibitor of Group V1A calcium-independent phospholipase A2 inhibits antigen-stimulated mast cell exocytosis without blocking Ca2+ influx. Cell Calcium. 2007 Feb;41(2):145-53.

[2]. Takuma T, et al. Role of Ca2+-independent phospholipase A2 in exocytosis of amylase from parotid acinar cells. J Biochem. 1997 Jun;121(6):1018-24.

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