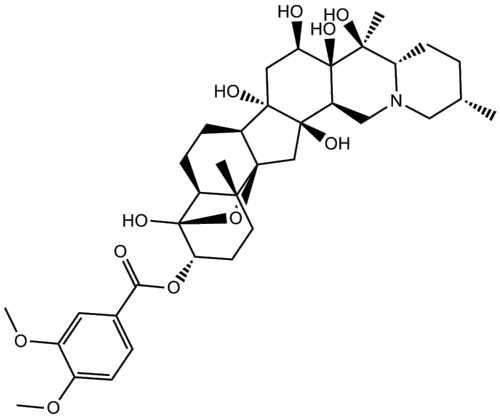
Product Data Sheet

Product Name: Veratridine
Cat. No.: GC14730

Chemical Properties

Cas. No.	71-62-5		
Chemical Name	(3S,4S,4aS,6aS,6bS,8R,8aS,9S,9aS,12S,15aS,15bR,16aR,16bR)-4,6b,8,8a,9,15b-hexahydroxy-9,12,16b-trimethyldocosahydro-1H-4,16a-epoxybenzo[4,5]indeno[1,2-h]pyrido[1,2-b]isoquinolin-3-yl 3,4-dimethoxybenzoate		
SMILES	O[C@@]([C@@]1([C@H](CN2[C@H]3CC[C@H](C)C2)[C@]4([C@@]3(C)O)O)O)(C[C@H]4O)[C@H]5[C@@]([C@@](CC[C@@H]6OC(C(C=C7OC)=CC=C7OC)=O)(C)[C@@H]8CC5)(C1)O[C@@]86O		
Formula	$C_{36}H_{51}NO_{11}$	M.Wt	673.79
Solubility	<33.69mg/ml in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Protocol

Cell experiment [1]:

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Cell lines	HCT-116 colon cancer cells (expressing GFP-UBXN2A)
Preparation method	The solubility of this compound in DMSO is >10mM. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting condition	20 and 40 μM, 24 hours
Applications	Veratridine is the main UBXN2A enhancer, increased UBXN2A protein levels in a dose-dependent manner.

Animal experiment [2]:

Animal models	C57Bl/6N mice(HCT-116 cells expressing GFP-UBXN2A were injected into 6 to 8 week old nude female mice)
Dosage form	Intraperitoneal injection (IP), 0.125 mg/kg for 28 days
Application	Veratridine (VTD) was sufficient to induce UBXN2A protein levels, resulting in colon cancer cell death in UBXN2A- and mot-2-dependent manners.
Other notes	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

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References:

[1]. Abdullah A, Sane S, Branick KA，et al.A plant alkaloid, veratridine, potentiates cancer chemosensitivity by UBXN2A-dependent inhibition of an oncoprotein, mortalin-2. Oncotarget. 2015 Sep 15;6(27):23561-81.

Background

Voltage-gated Na^+ channel opener; increases intracellular Ca^{2+} with no effect on the Na^+/Ca^{2+} exchanger. Steroid-derived alkaloid neurotoxin. Increases membrane Na^+ permeability and depolarizes excitable tissues.

Reference:

[1]. Purification, solubility and pKa of veratridine.
McKinney et al.
Anal.Biochem., 1986;153:33
[2]. Effects of Ca2+ channel antagonists on chromaffin cell death and cytosolic Ca2+ oscillations induced by veratridine.
Maroto et al.
Eur.J.Pharmacol., 1994;270:331
[3]. Mechanism of the persistant sodium current activator veratridine-evoked Ca2+ elevation: implication for epilepsy.
Fekete et al.
J.Neurochem., 2009;111:745

Caution: Product has not been fully validated for medical applications. For research use only.
Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA