sigma-aldrich.com
3050 Spruce Street, Saint Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Veratridine

Product Number **V5754**
Storage Temperature -0 °C

Product Description

Molecular Formula: $C_{36}H_{51}NO_{11}$
Molecular Weight: 673.8
CAS Number: 71-62-5
Melting Point: 180 °C
λ_{max}: 262 nm (ethanol)
Specific Rotation: +4.9° (25 mg/ml, ethanol, 25 °C)[1]

Veratridine is one of several alkaloids isolated from the seeds of *Schoenocaulon officinale* and from the rhizome of *Veratrum album*. The crude extract is called veratrine or sabadilla, and contains cevadine, veratridine, cevadilline, sabadine, and cevine. It has been used as an insecticide, acting as a paralytic agent with higher toxicity to insects than to mammals.[2] However, purified veratridine is highly toxic to all animals tested. Sabadilla has an LD_{50} of 5000 mg/kg, but veratridine has an LD_{50} of 1350 µg/kg.

In cells, veratridine acts to open voltage-dependent Na^+ channels and prevents their inactivation. This, in turn, opens voltage-activated calcium channels, increasing intracellular calcium content and inducing neurotransmitter release.[3,4] It has been used to study Na^+ channel blockers such as vincamine and vincanol by inducing Na^+ channels in the presence and absence of the drugs being tested.[5]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

Veratridine is soluble in ethanol or DMSO (50 mg/m), and is freely soluble in chloroform. The solubility in water is dependent on pH. The free base form is very slightly soluble in water, but dissolves easily at 50 mg/ml in 1 M HCl.

Storage/Stability

Solutions of veratridine in chloroform are stable for at least 6 months stored at -20 °C.

References

1. McKinney, L. C. et al., Purification, solubility and pKa of veratridine. Anal. Biochem., **153(1)**, 33-38 (1986).
2. Bloomquist, J. R. Ion channels as targets for insecticides. Ann. Rev. Entomol., **41**, 163-190 (1996).
3. Maroto, R., et al., Effects of Ca^{2+} channel antagonists on chromaffin cell death and cytosolic Ca^{2+} oscillations induced by veratridine. Eur. J. Pharmacol., **270(4)**, 331-339 (1994).
4. Dobrev, D., et al., Voltage-activated calcium channels involved in veratridine-evoked [^{3}H]dopamine release in rat striatal slices. Neuropharmacology, **37(8)**, 973-982 (1998).
5. Erdo, S. A., et al., Vincamine and vincanol are potent blockers of voltage-gated Na^+ channels. Eur. J. Pharmacol., **14(1-2)**, 69-73 (1996).

JLH/RXR 7/08