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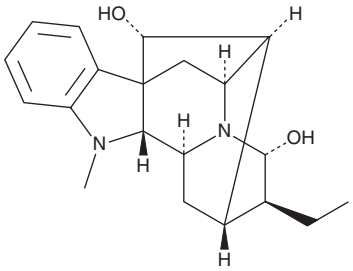
PRODUCT INFORMATION

Ajmaline

Item No. 29962

CAS Registry No.:	4360-12-7
Formal Name:	(17R,21α)-ajmalan-17,21-diol
Synonym:	NSC 15627
MF:	$C_{20}H_{26}N_2O_2$
FW:	326.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 249 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years
Item Origin:	Plant/*Pulsatilla koreana*



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

Laboratory Procedures

Ajmaline is supplied as a crystalline solid. A stock solution may be made by dissolving the ajmaline in the solvent of choice, which should be purged with an inert gas. Ajmaline is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of ajmaline in these solvents is approximately 10, 20, and 25 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of ajmaline can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ajmaline in PBS, pH 7.2, is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ajmaline is an alkaloid that has been found in *R. serpentina* and has ion channel inhibitory and antiarrhythmic activities.[1-5] It inhibits the human-ether-a-go-go (hERG) potassium channel, also known as K_V11.1, and the voltage-gated potassium channel subtypes K_V1.5 and K_V4.3 with IC_{50} values of 42.3, 293, and 186 µM, respectively, in *Xenopus* oocytes expressing the channels.[2,3] Ajmaline (1 µg/ml) increases the action potential duration in isolated dog atrium and ventricle.[4] It increases the functional refractory duration in the atrium, ventricle, and atrioventricular conduction system in anesthetized dogs when administered intravenously at a dose of 1 mg/kg.[4] Ajmaline (2 mg/kg, i.v.) reduces the number of premature ventricular complexes and decreases the duration of ventricular tachycardia and ventricular fibrillation in coronary artery-ligated anesthetized rats.[5]

References

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2. Kiesecker, C., Zitron, E., Lück, S., *et al. Naunyn-Schmiedebergs Arch. Pharmacol.* **370(6)**, 423-435 (2004).
3. Fischer, F., Vonderlin, N., Zitron, E., *et al. Naunyn-Schmiedebergs Arch. Pharmacol.* **386(11)**, 991-999 (2013).
4. Bojorges, R., Pastelin, G., Sanchez-Perez, S., *et al. J. Pharmacol. Exp. Ther.* **193(1)**, 182-193 (1975).
5. Hashimoto, Y., Hori, R., Okumura, K., *et al. Br. J. Pharmacol.* **88(1)**, 71-77 (1986).

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