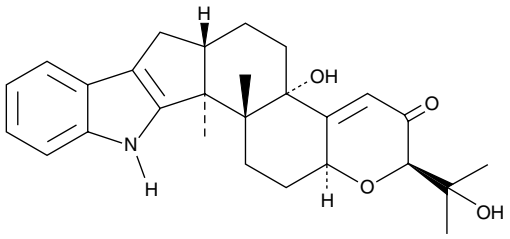
Product Information

Paxilline

Item No. 11345

CAS Registry No.: 57186-25-1
Formal Name: 5,6,6a,7,12,12bS,12cR,13,14,14aS-decahydro-4bS-hydroxy-2R-(1-hydroxy-1-methylethyl)-12b, 12c-dimethyl-2H-1-benzopyrano[5',6':6,7]indeno[1,2-b]indole-3(4bH)-one
MF: $C_{27}H_{33}NO_4$
FW: 435.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 231, 283 nm



Laboratory Procedures

For long term storage, we suggest that paxilline be stored as supplied at -20°C. It should be stable for at least two years.

Paxilline is supplied as a crystalline solid. A stock solution may be made by dissolving the paxilline in the solvent of choice. Paxilline is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of paxilline in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Paxilline is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, paxilline should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Paxilline has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Paxilline is an indole diterpene from fungi which potently and reversibly inhibits large conductance Ca^{2+}-activated K^+ (BK_{Ca}) channels, as shown in patch clamp (K_i = 1.9 nM) and whole smooth muscle cell studies (K_i = 35.7 nM).[1,2] It also enhances the binding of charybdotoxin, a peptidyl neurotoxin, to BK_{Ca} channels.[3] Paxilline is currently used to evaluate the role of BK_{Ca} channels in various cell processes and responses.[4,5]

References

1. Sanchez, M. and McManus, O.B. Paxilline inhibition of the alpha-subunit of the high-conductance calcium-activated potassium channel. *Neuropharmacology* **35(7)**, 963-968 (1996).
2. Li, G. and Cheung, D.W. Effects of paxilline on K^+ channels in rat mesenteric arterial cells. *Eur.J.Pharmacol.* **372**, 103-107 (1999).
3. Knaus, H.-G., McManus, O.B., Lee, S.H., *et al.* Tremorgenic indole alkaloids potently inhibit smooth muscle high-conductance calcium-activated potassium channels. *Biochemistry* **33(19)**, 5819-5828 (1994).
4. Jackson-Weaver, O., Paredes, D.A., Gonzalez Bosc, L.V., *et al.* Intermittent hypoxia in rats increases myogenic tone through loss of hydrogen sulfide activation of large-conductance Ca^{2+}-activated potassium channels. *Circ. Res.* **108(12)**, 1439-1447 (2011).
5. Tajima, N., Itokazu, Y., Korpi, E.R., *et al.* Activity of BK_{Ca} channel is modulated by membrane cholesterol content and association with Na^+/K^+-ATPase in human melanoma IGR39 cells. *J.Biol.Chem.* **286(7)**, 5624-5638 (2011).

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