

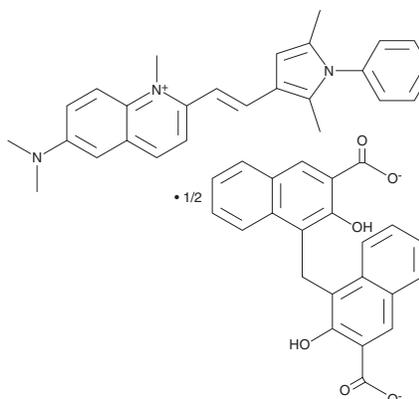
PRODUCT INFORMATION



Pyrvinium (pamoate)

Item No. 31546

CAS Registry No.: 3546-41-6
Formal Name: 4,4'-methylenebis[3-hydroxy-2-naphthalenecarboxylate] 6-(dimethylamino)-2-[2-(2,5-dimethyl-1-phenyl-1H-pyrrol-3-yl)ethenyl]-1-methyl-quinolinium
Synonym: NSC 223622
MF: C₂₆H₂₈N₃ • 1/2C₂₃H₁₄O₆
FW: 575.7
Purity: ≥95%
UV/Vis.: λ_{max}: 236, 357, 506 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Pyrvinium (pamoate) is supplied as a solid. A stock solution may be made by dissolving the pyrvinium (pamoate) in the solvent of choice, which should be purged with an inert gas. Pyrvinium (pamoate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of pyrvinium (pamoate) in these solvents is approximately 1 mg/ml.

Pyrvinium (pamoate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pyrvinium (pamoate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Pyrvinium (pamoate) has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Pyrvinium is an anthelmintic and anticancer agent.^{1,2} Dietary administration of pyrvinium reduces worm burden in mouse models of *N. dubius*, *S. obvelata*, or *A. tetraptera* infection (EC₅₀s = 292, 4, and 17 ppm, respectively) but is lethal to mice at higher concentrations (LC₅₀ = 600 ppm).¹ Pyrvinium (1 µg/ml) induces cytotoxicity in PANC-1 cells cultured in glucose-deficient medium but not serum- or amino acid-deficient medium or complete medium.² It reduces tumor growth in a PANC-1 mouse xenograft model when administered at a dose of 100 µg/mouse per day. Pyrvinium (10 nM) also binds to and activates casein kinase 1α (CK1α).³ It inhibits Wnt signaling (EC₅₀ = ~10 nM in a reporter assay) in a CK1α-dependent manner. Formulations containing pyrvinium were previously used in the treatment of pinworm infections.

References

1. Brody, G.L. and Elward, T.E. Comparative activity of 29 known anthelmintics under standardized drug-diet and gavage medication regimens against four helminth species in mice. *J. Parasitol.* **57**(5), 1068-1077 (1971).
2. Esumi, H., Lu, J., Kurashima, Y., et al. Antitumor activity of pyrvinium pamoate, 6-(dimethylamino)-2-[2-(2,5-dimethyl-1-phenyl-1H-pyrrol-3-yl)ethenyl]-1-methyl-quinolinium pamoate salt, showing preferential cytotoxicity during glucose starvation. *Cancer Sci.* **95**(8), 685-690 (2004).
3. Thorne, C.A., Hanson, A.J., Schneider, J., et al. Small-molecule inhibition of Wnt signaling through activation of casein kinase 1α. *Nat. Chem. Biol.* **6**(11), 829-836 (2010).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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