



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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# PRODUCT INFORMATION

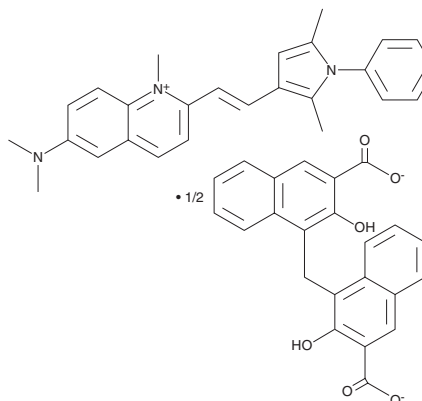


## Pyrvinium (pamoate)

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:**  $C_{26}H_{28}N_3 \cdot 1/2C_{23}H_{14}O_6$   
**FW:** 575.7  
**Purity:**  $\geq 95\%$   
**UV/Vis.:**  $\lambda_{max}$ : 236, 357, 506 nm  
**Supplied as:** A solid  
**Storage:**  $-20^\circ\text{C}$   
**Stability:**  $\geq 4$  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.<sup>1,2</sup> Dietary administration of pyrvinium reduces worm burden in mouse models of *N. dubius*, *S. obvelata*, or *A. tetraptera* infection ( $EC_{50}s = 292, 4, \text{ and } 17 \text{ ppm}$ , respectively) but is lethal to mice at higher concentrations ( $LC_{50} = 600 \text{ ppm}$ ).<sup>1</sup> Pyrvinium ( $1 \mu\text{g/ml}$ ) induces cytotoxicity in PANC-1 cells cultured in glucose-deficient medium but not serum- or amino acid-deficient medium or complete medium.<sup>2</sup> It reduces tumor growth in a PANC-1 mouse xenograft model when administered at a dose of  $100 \mu\text{g/mouse per day}$ . Pyrvinium ( $10 \text{ nM}$ ) also binds to and activates casein kinase 1 $\alpha$  (CK1 $\alpha$ ).<sup>3</sup> It inhibits Wnt signaling ( $EC_{50} = \sim 10 \text{ nM}$  in a reporter assay) in a CK1 $\alpha$ -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 1 $\alpha$ . *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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