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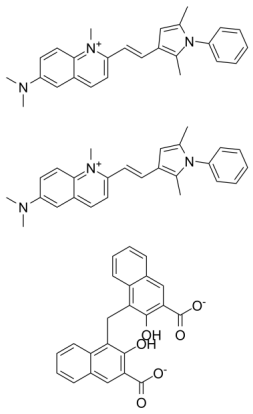
Certificate of Analysis

Catalog Number	BP22554
Product Name	Pyrvinium pamoate

Physical and Chemical Properties

CAS No.	3546-41-6
Chemical Formula	C26H28N3.1/2 C23H14O6
Molecular Weight	575.7
Solubility	DMSO: 17.86 mg/mL (31.02 mM, Need ultrasonic)
Storage	Powder: -20°C for 2 years In solvent: -80°C for 1 year
Chemical Structure OR Tested Image	

Product Information

Description	Pyrvinium pamoate is an FDA-approved antihelmintic drug that inhibits WNT pathway signaling.

In vitro	Pyrvinium pamoate (0-500 nM) inhibits proliferation of MCF-7 (luminal), MDA-MB-231 (claudin-low), MDA-MB-468 (basal-like) and SkBr3 (HER2-OE) cells in a dose-dependent manner, with IC50 value of 1170±105.0 nM against MDA-MB-231 cell line. Pyrvinium pamoate significantly inhibits self-renewal and proliferation of BCSCs, and suppresses BCSC population with a distinct phenotype. Pyrvinium pamoate significantly decreases average expression levels of FZD1, FZD10, WNT1, WNT7B, CTNNB1, MYC, and LRP5 at transcriptional level. Moreover, Pyrvinium pamoate also efficiently down-regulates the expression of other stemness genes including ALDH1, CD44 and ABCG2. Pyrvinium pamoate blocks colon cancer cell growth in vitro in a dose-dependent manner with great differences in the inhibitory concentration (IC50), ranging from 0.6 to 65 μM for colon cancer cells with mutations in WNT signaling. Pyrvinium pamoate decreases messenger RNA (mRNA) and protein levels of known WNT target genes as c-MYC and thereby led to the induction of p21. Pyrvinium pamoate ultimately inhibits Wnt signalling despite its lack of efficacy on CK1. Pyrvinium pamoate imposes specific toxicity on cardiac fibroblasts in ischemia (IC50=9.5 nM). The cytotoxic effect of Pyrvinium pamoate on cardiac fibroblasts specifically under glucose- and glutamine-deficient condition.
In vivo	In the xenograft model, Pyrvinium pamoate (500 nM)-pretreatment strongly delays tumor size and tumor weight, and the tumor volume is markedly decreased.

Analytical Data

HPLC	Shows Min >99% purity
H-NMR	Consistent with structure
Stability and Solubility Advice	Information on product stability, especially in solution, has rarely been reported and in most cases we can only provide a general guideline. We recommend that once the stock solution has been prepared, it be stored in equal quantities in sealed vials and used within 1 month. Avoid repeated freezing and thawing cycles. Storage conditions for some special products should be referred to their storage details.

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