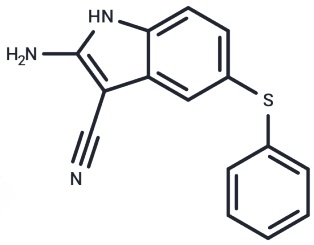
Data Sheet (Cat.No.T10309)

TargetMol

Amphethinile

Chemical Properties



CAS No. : 91531-98-5

Formula: C15H11N3S

Molecular Weight: 265.33

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Amphethinile, an anti-tubulin agent, has a Ka with tubulin of 1.3 μM.
Targets(IC50)	Others,Microtubule Associated
In vitro	Amphethinile exhibits strong binding affinity to microtubule proteins (Ka=1.3 μM) and effectively inhibits the assembly of tubulin without promoting its rapid disassembly. Its inhibitory concentration for assembly (12 μM) closely matches that of colchicine (11 μM), and it competes for the same binding sites as colchicine, though not for those targeted by vinca alkaloids. Furthermore, amphethinile enhances the GTPase activity of tubulin, akin to the effects observed with combretastatin A4 and 2-methoxy-5-(2',3',4'-trimethoxyphenyl) tropolone (MTPT). It causes a G2/M phase block in the cell cycle and demonstrates equal toxicity towards both parental and daunorubicin-resistant P388 cells. Unlike daunorubicin, vincristine, and vinblastine, where resistance in P388 cells is linked to reduced drug accumulation, amphethinile's effectiveness is less affected by such resistance mechanisms.
In vivo	Pharmacokinetic studies in male mice reveal an AUC of 313 μg/L per hour at doses equivalent to the LD10. Following a bolus intravenous injection, the alpha half-life is 8 minutes, and the beta half-life is 100 minutes, which is relatively independent of the dose level [2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7689 mL	18.8445 mL	37.6889 mL
5 mM	0.7538 mL	3.7689 mL	7.5378 mL
10 mM	0.3769 mL	1.8844 mL	3.7689 mL
50 mM	0.0754 mL	0.3769 mL	0.7538 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

McGown AT, et al. Interaction of the novel agent amphethinile with tubulin. Br J Cancer. 1989 Jun;59(6):865-8.
McGown AT, et al. Pre-clinical studies of a novel anti-mitotic agent, amphethinile. Br J Cancer. 1988 Feb;57(2):157-9.