

Vinblastine

Catalog No: tcsc1336



Available Sizes

Size: 10mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

865-21-4

Formula:

$C_{46}H_{58}N_4O_9$

Pathway:

Cell Cycle/DNA Damage;Cytoskeleton;Neuronal Signaling;Membrane Transporter/Ion Channel

Target:

Microtubule/Tubulin;Microtubule/Tubulin;nAChR;nAChR

Purity / Grade:

>98%

Solubility:

DMSO : ≥ 42 mg/mL (51.79 mM)

Observed Molecular Weight:

810.97

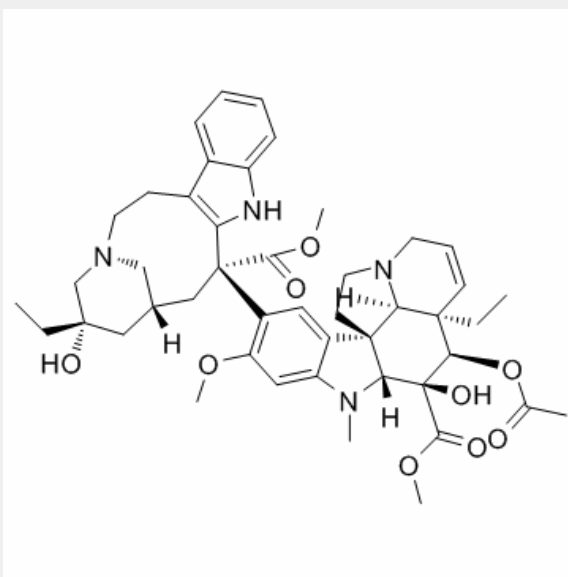
Product Description

Vinblastine is a cytotoxic alkaloid used against various cancer types. Vinblastine inhibits the formation of microtubule and suppresses nAChR with an **IC₅₀** of 8.9 μ M.

IC50 & Target: IC50: 8.9 μ M(nAChR)^[1]

In Vitro: Vinblastine does not depolymerize spindle microtubules, yet it powerfully blocks mitosis (for example, IC₅₀ 0.8 nM in HeLa cells) and cells die by apoptosis^[2]. In NB4 cells, vinblastine produces alteration of p53 and DNA fragmentation. Vinblastine treatment has an antiproliferative effect via the induction of apoptosis producing Bax/Bcl-2 imbalance. Vinblastine treatment suppresses NF κ B expression and depresses NF κ B-DNA binding activity while maintaining JNK activation that subsequently results in apoptotic response through caspase-dependent pathway^[3]. Vinblastine is found to trigger apoptosis as evidenced by the loss of mitochondrial membrane potential, the release of both cytochrome c and apoptosis inducing factor, activation of caspase-9 and 3, and cleavage of Poly (ADP-ribose)-Polymerase^[4].

In Vivo: Vinblastine is a widely used anticancer drug with undesired side effects. Its conjugation with carrier molecules could be an efficient strategy to reduce these side effects^[5].



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