

# 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 :  $\geq 42$  mg/mL (51.79 mM)

**Observed Molecular Weight:**

810.97

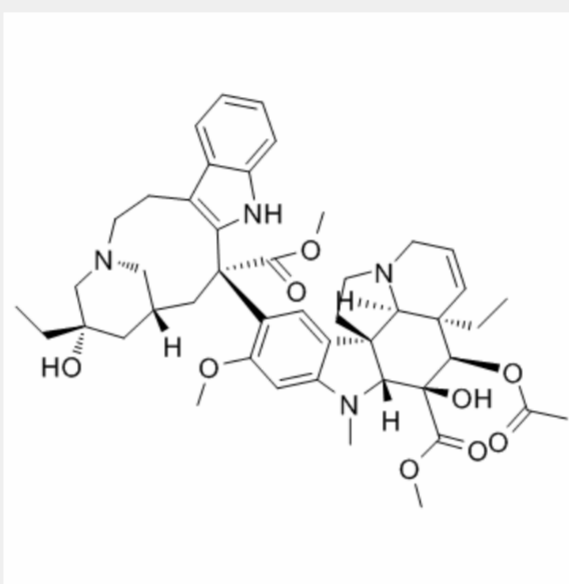
## Product Description

Vinblastine is a cytotoxic alkaloid used against various cancer types. Vinblastine inhibits the formation of microtubule and suppresses nAChR with an **IC<sub>50</sub>** of 8.9  $\mu$ M.

IC50 & Target: IC50: 8.9  $\mu$ M(nAChR)<sup>[1]</sup>

**In Vitro:** Vinblastine does not depolymerize spindle microtubules, yet it powerfully blocks mitosis (for example, IC<sub>50</sub> 0.8 nM in HeLa cells) and cells die by apoptosis<sup>[2]</sup>. 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 $\kappa$ B expression and depresses NF $\kappa$ B-DNA binding activity while maintaining JNK activation that subsequently results in apoptotic response through caspase-dependent pathway<sup>[3]</sup>. 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<sup>[4]</sup>.

**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<sup>[5]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!