Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

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 $\mathbf{IC_{50}}$ of 8.9 μM.

Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

IC50 & Target: IC50: 8.9 μM(nAChR)[1]

In Vitro: Vinblastine does not depolymerize spindle microtubules, yet it powerfully blocks mitosis (for example, IC_{50} 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 NFκB expression and depresses NFκB-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].