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

Staurosporine

Catalog No: tcsc2716

Available Sizes

Size: 2mg

Size: 5mg

Size: 10mg

Specifications

CAS No:
62996-74-1

Formula:
$C_{28}H_{26}N_4O_3$

Pathway:
Stem Cell/Wnt;Protein Tyrosine Kinase/RTK;TGF-beta/Smad;Epigenetics

Target:
PKA;PKA;PKC;PKC

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 31 mg/mL (66.45 mM); H2O :

Alternative Names:
Antibiotic AM-2282;STS;AM-2282

Observed Molecular Weight:
466.53

Product Description

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Staurosporine is a very potent universal inhibitor of protein kinases but showing little selectivity, with **IC_{50}** of 6 nM, 15 nM, 2 nM, and 3 nM for **PKC**, **PKA**, **c-Fgr**, and **Phosphorylase kinase**, respectively.

IC50 & Target: IC50: 6 nM/15 nM/2 nM/3 nM (PKC/PKA/c-Fgr/Phosphorylase kinase)[1]

In Vitro: Staurosporine, widely used as a protein kinase C (PKC) inhibitor with a broad spectrum of activity, is an alkaloid isolated from the culture broth of *Streptomyces staurospores*. MC3T3E-1 osteoblasts, expose to Staurosporine (100 nM) for 12 h, release an amount of LDH (12.4±3.1%) that is similar to that release by the control cells(10.0±2.4%), indicating the relative absence of lytic death, which occurs in necrosis. In addition, treatment with Staurosporine (100 nM) results in morphological changes, characteristic of apoptosis: a brightblue fluorescent condensed nuclei seen through a fluorescence microscope after Hoechst 33258-staining, and a reduction of cell volume[2].

In Vivo: The inhibitory effect of Staurosporine is statistically significant at around Wk 10 of tumor promotion. Although statistically significant inhibition is not obtained with 10 ng of Staurosporine in later weeks of the experiment, a decreasing tendency in the percentages of tumor bearing mice and in average numbers of tumors per mouse is apparent. Thus, Staurosporine slightly inhibits tumor promotion of Teleocidin, even at the dose at which Staurosporine itself induced tumors[3]. Staurosponne (0.05 and 0.1 mg/kg intraperitoneal) attenuates the impaired perlormance of water maze and passive avoidance tasks, even though the drug administration began 2 weeks after the lesion. Moreover, Staurosporine (0.1 mg/kg) partially reversed the decrease of choline acetyltransferase activity in the fronto-parietal cortex induced by basal forebrain-lesion. These results suggest that Staurosporine attenuates impairment of learning through reversal of damage to cholinergic neurons induced by basal forebrain-lesion[4].