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

Actinomycin D

Catalog No: tcsc2792

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Specifications

CAS No:
50-76-0

Formula:
$C_{62}H_{86}N_{12}O_{16}$

Pathway:
Cell Cycle/DNA Damage;Autophagy

Target:
DNA/RNA Synthesis;Autophagy

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 27 mg/mL (21.51 mM)

Alternative Names:
Dactinomycin;Actinomycin IV

Observed Molecular Weight:
1255.42

Product Description

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Actinomycin D inhibits **DNA repair** with **IC_{50}** of 0.42 μM.

IC50 & Target: IC50: 0.42 μM (DNA repair)[1]

In Vitro: Actinomycin D is an inhibitor of DNA transcription and replication[1]. Actinomycin D markedly reduces the vascular smooth muscle cells (SMC) proliferation via the inhibition of BrdU incorporation at 80 nM. This is further supported by the G1-phase arrest using a flowcytometric analysis. Actinomycin D is extremely potent with an inhibitory concentration IC_{50} at 0.4 nM, whereas the lethal dose LD50 is at 260 microM. The protein expression levels of proliferating cell nuclear antigen (PCNA), focal adhesion kinase (FAK), and Raf are all suppressed by Actinomycin D. Extracellular signal-regulated kinases (Erk) involved in cell-cycle arrest are found to increase by Actinomycin D[2].

In Vivo: The pluronic gel containing 80 nM and 80μM Actinomycin D is applied topically to surround the rat carotid adventitia, the thickness of neointima is substantially reduced (45 and 55%, respectively)[2]. Mice in the Actinomycin D and fludarabine group lives significantly longer than the control group with P values of [3].