

Mitomycin C

Catalog No: tcsc0564



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

50-07-7

Formula:

$C_{15}H_{18}N_4O_5$

Pathway:

Cell Cycle/DNA Damage;Antibody-drug Conjugate/ADC Related;Cell Cycle/DNA Damage;Autophagy

Target:

DNA Alkylator/Crosslinker;ADC Cytotoxin;DNA/RNA Synthesis;Autophagy

Purity / Grade:

>98%

Solubility:

DMSO : 30 mg/mL (89.73 mM; Need ultrasonic and warming)

Alternative Names:

Ametycine

Observed Molecular Weight:

334.33

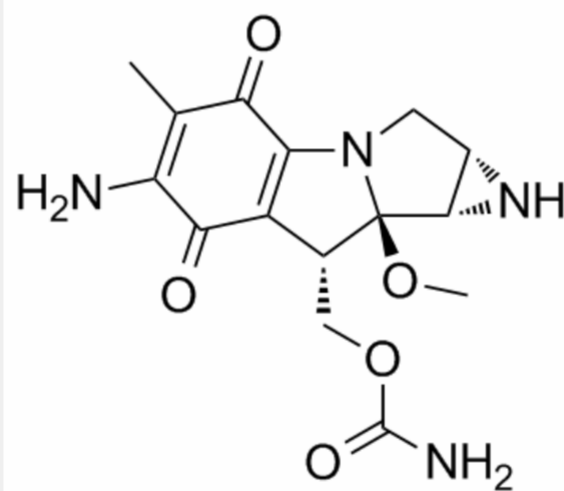
Product Description

Mitomycin C is an antitumor drug and antibiotic that shows extraordinary ability to inhibit **DNA synthesis**.

IC50 & Target: DNA synthesis^[1]

In Vitro: The HCT116 (p53^{-/-}) cells are minimally sensitive to either Mitomycin C or TRAIL alone. However, surprisingly, combination treatment with MMC and TRAIL decreases cell viability significantly. Although Mitomycin C and TRAIL alone are moderately effective, Mitomycin C substantially enhances the effect of TRAIL on suppression of the cell proliferation. Mitomycin C and TRAIL treatment alone induces 9.5% and 35.0% apoptosis, respectively. However, combination treatment with Mitomycin C and TRAIL enhances apoptosis to 66.6%^[1]. Mitomycin C is a cytotoxic chemotherapeutic agent that causes DNA damage in the form of DNA cross-links as well as a variety of DNA monoadducts and is known to induce p53^[2].

In Vivo: Mice bearing xenografted HCT116 (p53^{-/-}) colon tumors and HT-29 colon tumors are treated with Mitomycin C (i.p., 1 mg/kg) and TRAIL (i.v., 100 µg) every other day. Animals are treated with 10 consecutive cycles of the combination therapy regimen. The combination therapy suppresses tumor growth significantly and does not impact the weight of the mice, indicating that the therapeutic combination of Mitomycin C and TRAIL is well-tolerated and has anti-tumor activity in vivo^[1]. Intravesical Mitomycin C instillations has an effect on body weight that is not observed in normal, NaCl instilled or Epirubicin instilled rats. After 3 consecutive weekly instillations of 1 mg/mL Mitomycin C there is almost no weight gain, whereas rats in the other 3 groups has a statistically significant weight gain compared with MMC treated rats^[3].



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