

Product Specification Sheet

Product Name: Mitomycin C

Catalog Number: C6486

Technical information:

Chemical Formula: C₁₅H₁₈N₄O₅

CAS #: 50-07-7

Molecular Weight: 334.33

Purity: > 98%

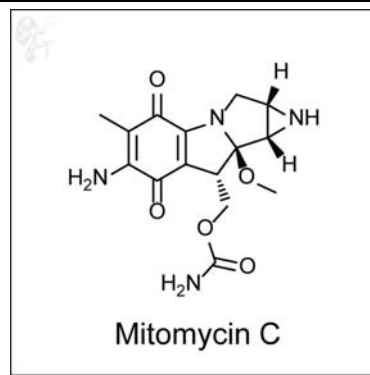
Appearance: purple solid solid

Solubility: Soluble in DMSO up to 20 mM

Chemical Name: [6-Amino-8a-methoxy-5-methyl-4,7-dioxo-1,1a,2,4,7,8,8a,8b-octahydroazireno[2',3':3,4]pyrrolo[1,2-a]indol-8-yl]methyl carbamate

Storage: Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Shelf Life: In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.



- Handling:**
- To make 10 mM stock solution, add 0.299mL of DMSO for each mg of Mitomycin C.
 - For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity: Mitomycin C is a quinone-based antitumor antibiotic that crosslinks the complementary strands of the DNA double helix with exquisite base- and regioselectivity for the N2 of guanine. (1) It first entered clinical trials in 1958 has been employed since 1974 in combination chemotherapy treatments (2)

Mitomycin C has been shown to induce apoptosis through caspase processing. In MCF-7 breast cancer cell lines, mitomycin C treatment led to active caspase-7, -8, and -9 processing, with minimal effect to caspase-3. (3)

More recently, mitomycin C was observed to act irreversibly upon thioredoxin reductase (TrxR) in a time- and concentration-dependent manner. In DTNB and insulin assays, mitomycin C inhibited

- Reference:**
1. Tomasz, M., Mitomycin C: small, fast, and deadly (but very selective). Chem. Biol. 1995, 2, 575-579. Pubmed ID: 9383461
 2. Crooke et al., Mitomycin C: a review. Cancer Treatment Rev. 1976, 3, 121-139. Pubmed ID: 786455
 3. Pirnia et al., Mitomycin C induces apoptosis and caspase-8 and -9 processing through a caspase-3 and Fas-independent pathway. Cell Death Differentiation, 2002, 9, 905-914. Pubmed ID: 12181741
 4. Paz et al., A New Mechanism of Action for the Anticancer Drug Mitomycin C: Mechanism-Based Inhibition of Thioredoxin Reductase. Chem. Res. Toxicol. 2012, 25, 1502-1511. Pubmed ID: 22694104

To reorder: <http://www.cellagentech.com/Mitomycin-C/>

For Technical Support: technical@cellagentech.com

Chemicals are sold for research use only, not for clinical or diagnostic use.