

Revision 1

Store at -20C

#51854

Mitomycin C

5 mg

**Cell Signaling**
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Background

Mitomycin C, also known as MMC, is an antitumor antibiotic isolated from *Streptomyces caespitosus* (1). When activated, this alkylating agent crosslinks double stranded DNA resulting in DNA damage (2). Mitomycin C has been found to have lethal effects on HeLa cells during the G₁ phase of the cell cycle (3). DNA damage caused by Mitomycin C can lead to increased levels of p53 that can result in cell cycle arrest or apoptosis (4).

Molecular Formula

C₁₅H₁₈N₄O₅

Molecular Weight

334.3 g/mol

Purity

>98%

CAS

50-07-7

Solubility

Soluble in DMSO at 15 mg/ml or water at 1 mg/ml with slight warming.

Storage

Store lyophilized at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 1 month to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use:

Mitomycin C is supplied as a lyophilized powder. For a 15 mM stock, reconstitute 5 mg of powder in 997 µl of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

1. HATA, T. and SUGAWARA, R. (1956) *J Antibiot (Tokyo)* 9, 147-51.
2. Tomasz, M. (1995) *Chem Biol* 2, 575-9.
3. Djordjevic, B. and Kim, J.H. (1968) *J Cell Biol* 38, 477-82.
4. Tishler, R.B. et al. (1993) *Cancer Res* 53, 2212-6.
5. Garcia-Higuera, I. et al. (2001) *Mol Cell* 7, 249-62.

APPLICATIONS KEY

CROSS-REACTIVITY KEY H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr:

hosp: Pork rabbit All: all species expected

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