Mitomycin C is an antibiotic which acts as a double-stranded DNA alkylating agent. It covalently crosslinks DNA, inhibiting DNA synthesis and cell proliferation. It acts by way of reductive activation either through low pH or NAD(P)H:quinone oxidoreductase (DT-diaphorase) or NADH cytochrome c reductase (Mao et al.; Cummings et al.).

**Properties**

**Physical Appearance:** A crystalline solid

**Storage:**
Product stable at -20°C as supplied. Protect from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.

**Solubility:**
- DMSO ≤ 55 mM
- Absolute ethanol ≤ 0.3 mM
- PBS (pH 7.2) ≤ 1.5 mM

For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 299 μL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Small Molecules
Mitomycin C

Published Applications

MAINTENANCE AND SELF-RENEWAL
- Mitotically inactivates mouse embryonic fibroblasts (MEFs) for use as feeder cell layers in embryonic stem cell co-culture systems (Bryja et al.).

CANCER RESEARCH
- Selectively inhibits DNA synthesis and mutagenesis, stimulates genetic recombination, chromosome breakage and sister chromatid exchange, and induces DNA repair (Tomasz).

References


Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, please visit our website at www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.

This product is hazardous. Please refer to the Safety Data Sheet (SDS).