Mithramycin is an aureolic acid-type polyketide antibiotic initially produced by species of *Streptomyces*. Mithramycin exhibits neuroprotective and anticancer chemotherapeutic activities. In animal models of Huntington’s disease, mithramycin prevented increases in H3 histone methylation, delaying disease pathology, improving motor performance, and increasing survival rates. Mithramycin is a reversible inhibitor of RNA synthesis, binding CG and GC sequences and inhibiting transcription initiation. Mithramycin also inhibits CpG methylation of tumor-suppressor genes through direct inhibition of DNA methyltransferase 1 (DNMT1) activity in lung cancer cells. In cellular and animal models of prostate cancer, mithramycin increases levels of tBid and decreases levels of mTOR and Mcl-1, inducing apoptosis and inhibiting tumor growth.

**References**


