Sustained-release Mitomycin C Hydrogel Formulation UGN-102

National Cancer Institute

Source

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A sustained-release (SR) reverse thermal (RT) hydrogel formulation containing the antineoplastic antibiotic mitomycin C (MMC), with potential antineoplastic activity. Upon intravesical instillation of the SR MMC hydrogel formulation UGN-102, the liquid converts into gel form and conforms to the bladder wall, allowing MMC to be deposited locally in the bladder to prevent the excretion of this chemotherapeutic agent via urinary flow. In turn, MMC alkylates DNA, and produces interstrand DNA cross-links, thereby inhibiting DNA synthesis resulting in inhibition of tumor cell proliferation. Due to its reverse thermal-gelation properties, this gel is able to stay in a liquid state at cold temperatures, at 4 degrees Celsius, and transition to a water-soluble gel at body temperature. This allows for increased accumulation of MMC locally in the upper urinary tract which leads to increased efficacy compared to standard intravesical delivery of MMC for bladder cancer. Compared to UGN-101, in UGN-102 the strength of MMC is lower.