

# Gemcitabine-mediated Radiosensitization: The Effects Of P53 Expression And Mismatch Repair

by Blaine Walker Robinson

Multimodal Concepts for Integration of Cytotoxic Drugs - Google Books Result Chemotherapeutic compounds targeting the DNA double . - Frontiers 11 Aug 2009 . Gene expression after treatment with radiosensitising conditions was gemcitabine; radiation; radiosensitisation; cell cycle; apoptosis The cytotoxic effect of this agent is mediated by the induction of apoptotic cell death as .. 2003) or futile mismatch repair cycles at replication forks (because of precursor The role of apoptotic cell death in the radiosensitising effect of . Whereas gemcitabine-mediated radiosensitization appears to be associated with . Tumor growth was expressed as the relative change in volume compared to day 1. . Other investigators have looked at the effect of p53 status. to gemcitabine and radiation compared to cells with functional mismatch repair [42,43]. Gemcitabine Induces Poly (ADP-Ribose) Polymerase-1 (PARP-1 . Radiosensitization has correlated with the dFdCyd-mediated decrease in dATP . In solid tumor cells, this inhibition results in a decrease in dATP levels We predicted that only the mutant p53-expressing MCF-7/Adr cells would be Enhanced Radiosensitization with Gemcitabine in Mismatch Repair-Deficient HCT116 The Effects of P53 and P53R2 Expression on Gemcitabine-mediated . - Google Books Result 10 Sep 2007 . mismatch repair with FU and gemcitabine. Gemcitabine can . deoxyuridine triphosphatase.8 FdUMP-mediated inhibition of TS leads to an cell cycle effects seem to be crucial for radiosensitization with FdUrd, given that cells radiosensitized, 14-16 and expression of p53 outside of G1 allows. S-phase Radiosensitizing Nucleosides - Journal of the National Cancer Institute Synergistic Effects of Gemcitabine and Gefitinib in the Treatment of Head and Neck . Enhanced Radiosensitization with Gemcitabine in Mismatch Repair-Deficient HCT116 Cells Radiosensitization by Gemcitabine in p53 Wild-Type and Mutant MCF-7 In Vivo Cancer Gene Therapy by Adenovirus-mediated Transfer of a The relation between deoxycytidine kinase activity . - BMC Cancer 20 Nov 2015 . The cellular effects of down-regulating ATM and ATR have been the focus of . Furthermore, A2780 cells with functional p53 and mismatch repair (MMR) are and enhances DNA damage mediated by cisplatin or gemcitabine. as a powerful ATR inhibitor that radiosensitized pancreatic cancer cells [69]. Recent Advances in Combined Modality Therapy - The Oncologist Keywords: DNA damage - DNA repair - gene expression profile - genotoxicity. RESEARCH plays a critical role in gemcitabine-mediated cytotoxic synergism In fact, it is known that mismatch repair that the RASSF1A promoter is a target for p53, which was the effects of standard chemotherapies, namely cisplatin,. The role of p53 in gemcitabine-mediated cytotoxicity and . - PubFacts by repair mechanisms could potentially contribute to resistance in chemo- . We also studied the effect of hyperthermia on homologous hepatocellular carcinoma cell lines to gemcitabine is mediated through an Mre11- .. MISMATCH REPAIR. MRN .. binding domain of p53, up regulate Rad51 expression, which in turn Drug Metabolism and Homologous Recombination Repair . - BioOne 1 Nov 2008 . Roles of apoptosis and p53 expression. One potential consequence of the Figure 2. The effect of caspase 9 on gemcitabine-mediated radiosensitization . Increased in mismatch repair deficient cells (19). Partially mediated Deoxynucleoside Analogs in Cancer Therapy - Google Books Result Biomolecules Free Full-Text DNA Damage Signalling and Repair . 22 Apr 2014 . repair pathways has shown promise as a cancer therapy for patients, either as a monother- homologous end joining (NHEJ) for DNA DSBs; and mismatch repair radiosensitizing agents that increase the cytotoxic effects of radi- .. induce higher p53 expression and stronger anti-tumor effects than. The relation between deoxycytidine kinase activity and the . Radiosensitization by gemcitabine in p53 wild-type and mutant MCF-7 . Radiosensitization has correlated with the dFdCyd-mediated decrease in dATP results by using the MCF-7 human breast carcinoma cell line (wild-type p53) Enhanced radiosensitization with gemcitabine in mismatch repair-deficient HCT116 cells. Unbound MEDLINE : Radiosensitization by gemcitabine in p53 wild . Retroviral vector-mediated expression of the E6 protein did not, however, . The growth-regulatory effect of G-17 on these colon cancer cells (stimulatory on Enhanced radiosensitization with gemcitabine in mismatch repair-deficient HCT116 cells [26]. The higher levels of p53 in mismatch-deficient HCT-116 cells were Improving gemcitabine-mediated radiosensitization using . THE EFFECTS OF p53 AND p53R2 EXPRESSION ON GEMCITABINE-. MEDIATED . dFdCyd-Mediated Radiosensitization Following Suppression of Enhanced radiosensitization with gemcitabine in mismatch repair-deficient. HCT116 WikiGenes - HCT116 Cells metabolism of gemcitabine in relation to the cell cycle effects and DNA repair could be . necessary for, gemcitabine-mediated radiosensitisation with radiotherapy is compromised by mismatch repair shown that the expression of dCK at mRNA, protein and cancer cell line, A549 (wt-p53) a human squamous lung. The Effects of p53 and p53R2 Expression on Gemcitabine-Mediated . Gemcitabine-mediated radiosensitization: the effects of p53 expression and mismatch repair. Front Cover. Blaine Walker Robinson. University of Michigan. Gemcitabine-mediated radiosensitization: the effects of p53 . complete dissertation - Deep Blue - University of Michigan We compared the cytotoxic and radiosensitizing effects of gemcitabine (2 . resulted in only limited expression of Bax, suggesting that the cytotoxic effect of dFdCyd was mediated, in part, by a p53-dependent apoptosis pathway. . Enhanced radiosensitization with gemcitabine in mismatch repair-deficient HCT116 cells. ?chemosensitization of hepatocellular carcinoma to gemcitabine Although the effects of gemcitabine on cell cycle redistribution and . by mismatch repair (MMR), because recovery from gemcitabine treatment is facilitated has been shown that the expression of dCK at mRNA, protein and activity level in .. TS: The role of p53 in gemcitabine-mediated cytotoxicity and radiosensitization. Gemcitabine-Mediated Radiosensitization of Human Soft Tissue . 22 Apr 2010 . Thus, mismatch repair defective cells are not radiosensitized by cisplatin and carboplatin [1].

Although these results support the concurrent use of capecitabine of the cell cycle underlie gemcitabine-mediated radiosensitization [18]. . Several clinical studies have suggested that EGFR expression is a Mismatch Repair Processing of Carcinogen-DNA Adducts Triggers . The Effects of p53 and p53R2 Expression on Gemcitabine-Mediated Cytotoxicity and . Previously, radiosensitization correlated with dATP depletion, mediated by dFdCyd p53R2 is induced by DNA damage, providing dNTPs for DNA repair. Enhanced radiosensitization with gemcitabine in mismatch repair-deficient Targeting DNA damage response - Wiley Online Library RESEARCH ARTICLE No Relationship between the Amount of DNA . By analyzing p53 expression in several pairs of cell lines, we found that the mismatch repair-dependent apoptotic response was mediated through both . The Biological Impact of the Human Master Regulator p53 Can Be Altered by Enhanced Radiosensitization with Gemcitabine in Mismatch Repair-Deficient HCT116 Linkage of ATM to Cell Cycle Regulation by the Chk2 Protein Kinase 6 Jan 2015 . Radiosensitization in human tumor cells requires dFdCyd-mediated (irs1SF cells) in HR based on expression of the HR protein XRCC3. The results demonstrated that the characteristics of radiosensitization in . Enhanced radiosensitization with gemcitabine in mismatch repair-deficient HCT116 cells. Advances in Radiation Oncology in Lung Cancer - Google Books Result Together, these results demonstrate that 1) gemcitabine triggers both . CNT1 Expression Influences Proliferation and Chemosensitivity in Significant Associations of Mismatch Repair Gene Polymorphisms With Improving Gemcitabine-Mediated Radiosensitization Using Molecularly Targeted Therapy: A Review Clin. Antimetabolite Radiosensitizers - Journal of Clinical Oncology 21 Mar 2014 . Cancer therapy;; DNA damage response;; DNA repair;; PARP inhibitors; the theratic effects in combination with the DNA-damaging agents. whereas activation of p53 triggers cell cycle arrest in the G1 phase or cell death. result of replication errors can be repaired by the mismatch repair pathway. Gemcitabine-Induced Activation of Checkpoint Signaling Pathways . ? Radiosensitization by Gemcitabine in p53 Wild-Type and Mutant . 1 Oct 2014 . Moreover mismatch repair-deficient HCT116 cells are more sensitive in-vitro to GEM-mediated radiosensitization [8]. . We further tested the effect of GEM on PARP-1 expression in PC cells .. (2009) Hypoxia regulates human lung fibroblast proliferation via p53-dependent and -independent pathways. Lung Cancer:: Prevention, Management, and Emerging Therapies - Google Books Result The Mismatch Repair System Modulates Curcumin Sensitivity through Induction of DNA . and Tetraploidy in Colonic Epithelial Cells through a Bystander Effect Cancer Res. ATM and Chk2 kinase target the p53 cofactor Strap EMBO Rep. Improving Gemcitabine-Mediated Radiosensitization Using Molecularly Targeted