

Answer 1:

Bibliographic Information

Human osteosarcoma xenografts and their sensitivity to chemotherapy. Bruheim, Skjalg; Bruland, Oyvind S.; Breistol, Knut; Maelandsmo, Gunhild M.; Fodstad, Oystein. Department of Tumor Biology, Institute for Cancer Research, The Norwegian Radium Hospital, Oslo, Norway. *Pathology Oncology Research* (2004), 10(3), 133-141. Publisher: Aranyi Lajos Foundation, CODEN: POREFR ISSN: 1219-4956. Journal written in English. CAN 142:253924 AN 2004:1018322 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Despite the increased survival rates of osteosarcoma patients attributed to adjuvant chemotherapy, at least one third of the patients still die due to their disease. Further improvements in the management of osteosarcoma may rely on a more individualized treatment strategy, as well as on the introduction of new drugs. To aid in the preclin. evaluation of new candidate substances against osteosarcoma, we have established 11 human osteosarcoma xenograft lines and characterized them with regard to response to five different ref. drugs. Doxorubicin, cisplatin methotrexate, ifosfamide and lomustine were effective in 3/11, 3/11, 1/10, 5/11 and 4/11 of the xenografts, resp. Five xenografts were resistant to all compds. tested. We also assessed the mRNA expression levels of the xenografts for the O6-Methylguanine DNA Methyltransferase (MGMT), DNA topoisomerase II- (Topo II)- α , Gluthathione-S-transferase (GST)- π , Multidrug-resistance related protein (MRP) 1 and Multidrug-resistance (MDR) 1 genes. There was an inverse correlation between the transcript levels of GST- π and doxorubicin growth inhibition ($r = -0.66$; $p < 0.05$), and between the transcript levels of MGMT and the effect of lomustine ($r = -0.72$; $p < 0.01$), whereas the expression of MRP1 and cisplatin growth inhibition was pos. correlated ($r = 0.82$; $p < 0.005$). This panel of xenografts should constitute a good tool for pharmacol. and mol. studies in osteosarcoma.

Answer 2:

Bibliographic Information

In vitro sensitivity of human melanoma xenografts to cytotoxic drugs. Correlation with in vivo chemosensitivity. Tveit, Kjell Magne; Fodstad, Oeystein; Olsnes, Sjur; Pihl, Alexander. Norwegian Cancer Society, Norsk Hydro's Inst. Cancer Res., Oslo, Norway. *International Journal of Cancer* (1980), 26(6), 717-22. CODEN: IJCNAAW ISSN: 0020-7136. Journal written in English. CAN 94:76807 AN 1981:76807 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Single-cell suspensions prep'd. from 5 human melanomas, grown serially as xenografts in athymic nude mice, were exposed in vitro to increasing concns. of dacarbazine [4342-03-4], CCNU [13010-47-4], procarbazine [671-16-9], vinblastine [865-21-4], and the cancerostatic lectins abrin and ricin. The in vitro chemosensitivity of the cells, as measured by the drug concns. required to inhibit colony formation in soft agar by 50%, was correlated with the growth delay of the xenografts in vivo, previously obs'd. after treatment of the animals with maximal tolerable doses of the same drugs. For each drug, the in vitro sensitivity of the different xenografts was strongly correlated with their response in vivo. Apparently, the soft agar test, as carried out here, adequately reflects the relative sensitivity of the xenografts in vivo. The data indicate that human xenografts may be used to develop quant. in vitro chemosensitivity tests.

Answer 3:

Bibliographic Information

Comparison of antitumor activities of nitrosourea derivatives against mammary breast carcinoma (MX-1) in nude mice. Inoue, Katsuhiko; Fujimoto, Shuichi; Ogawa, Makoto. Div. Clin. Chemother., Cancer Chemother. Cent., Tokyo, Japan. *Gann* (1980), 71(5), 686-91. CODEN: GANNA2 ISSN: 0016-450X. Journal written in English. CAN 94:273 AN 1981:273 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

The antitumor activities of 6 nitrosourea derivs. against the xenograft of mammary breast carcinoma transplanted in nude mice (MX-1) were evaluated. A single treatment with ACNU [55661-38-6] (40 mg/kg, i.v.) induced 92% tumor regression, compared to 73% and 69% tumor regression induced by MCNU [58994-96-0] (15 mg/kg, i.v.) and CCNU [13010-47-4] (50 mg/kg, i.v.), resp. GANU [58484-07-4], 2-[3-(2-chloroethyl)-3-nitrosoureido]-2-deoxyl-D-glucopyranose (DCNU) [54749-90-5], and 1-(2-chloroethyl)-3-(4-methylcyclohexyl)-1-nitrosourea (MeCCNU) [13909-09-6] were less effective. To evaluate the antitumor activity of the drugs, the predetd. dose lethal to 0.10 of the BDF1 mice (LD10) was employed for each drug as a std. therapeutic dose to nude mice; doses higher than LD10 and 0.25 or 0.50 of the LD10 were also give. Apparently, the LD10 in BDF1 mice could be employed as a std. therapeutic dose in the chemotherapy of nude mice.