

Answer 1:

Bibliographic Information

Antitumor activity of doxorubicin encapsulated in hexadecylphosphocholine (HePC) liposomes against human xenografts on scid mice. Papagiannaros, A.; Hatziantoniou, S.; Lelong-Rebel, I. H.; Papaioannou, G. Th.; Dimas, K.; Demetzos, C. Department of Pharmaceutical Technology, School of Pharmacy, National and Kapodistrian University of Athens, Athens, Greece. *In Vivo* (2006), 20(1), 129-135. Publisher: International Institute of Anticancer Research, CODEN: IVIVE4 ISSN: 0258-851X. Journal written in English. CAN 145:39908 AN 2006:114726 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Abstract

Doxorubicin was encapsulated into liposomes composed of hexadecylphosphocholine:egg yolk phosphatidylcholine:stearylamine (HePC:EPC:SA) 10:10:0.1 (molar ratio) (1) and EPC:SA 10:0.1 (molar ratio) (2). Liposomal formulations 1 and 2, as well as free doxorubicin and free HePC, were tested in vitro against HCT116 human colon cancer cell lines and peripheral blood mononuclear cells (PBMCs) obtained from healthy donors, using the sulforodamine B assay. The activity of doxorubicin was retained or slightly improved when entrapped into liposomes 1 and 2, while liposomal formulation 1 incorporating doxorubicin was found to be less toxic against normal cells. The liposomes were tested in vivo against human colon cancer xenografts in scid mice. The antitumor activities of liposomes 1 and 2 were statistically similar to that of free doxorubicin, but their toxicity was significantly lower. Based on these results, the combination of HePC and doxorubicin in one liposomal formulation may be justified for further evaluation.

Answer 2:

Bibliographic Information

Investigation into the immunological effects of miltefosine, a new anticancer agent under development. Hilgard P; Kampher E; Nolan L; Pohl J; Reissmann T ASTA Pharma AG, Department of Experimental Cancer Research, Bielefeld, Federal Republic of Germany *Journal of cancer research and clinical oncology* (1991), 117(5), 403-8. Journal code: 7902060. ISSN:0171-5216. (COMPARATIVE STUDY); Journal; Article; (JOURNAL ARTICLE) written in English. PubMed ID 1890137 AN 91365798 MEDLINE (Copyright (C) 2008 U.S. National Library of Medicine on SciFinder (R))

Abstract

Miltefosine is the prototype of alkylphosphocholines, a new class of anticancer agents related to alkyl-lysophospholipids. These agents were considered to possess potent immunomodulatory properties. Miltefosine was highly active against the human KB tumour xenograft in nude mice, leading to growth inhibition as well as regression of large established tumours, which suggested that its mode of action was not mediated by the T cell system. In vivo natural killer cell activity was measured by chromium release of YAC-1 cells using spleen cells from treated animals as effector cells. Miltefosine had no significant effect on YAC-1 cytotoxicity. Similarly, the compound did not induce cytotoxic spleen cells against KB target cells. The results were identical when spleen cells from tumour-bearing animals were used. Humoral antibody production in rats following sheep red blood cell immunization was not changed by miltefosine pretreatment. Finally, the in vitro phagocytic activity of mouse bone marrow macrophages was not stimulated but rather inhibited in a dose-dependent manner. In conclusion, there is no experimental evidence that the miltefosine action is mediated by the host immune system and no major immunotoxicity was observed.