Antitumor activity of four macrocyclic ellagitannins from Cuphea hyssopifolia

王靜瓊;楊玲玲
Wang CC;Chen LG;Yang LL

Abstract

We evaluated the antitumor activities of four macrocyclic hydrolyzable tannin dimers, cuphiin D1, cuphiin D2, oenothein B and woodfordin C isolated from Cuphea hyssopifolia (Lythraceae). All significantly inhibited the growth of the human carcinoma cell lines KB, HeLa, DU-145, Hep 3B, and the leukemia cell line HL-60, and showed less cytotoxicity than adriamycin against a normal cell line (WISH). All four compounds inhibited the viability of S-180 tumor cells in an in vitro assay and an in vivo S-180 tumor-bearing ICR mice model. Oenothein B demonstrated the greatest cytotoxicity (IC50 = 11.4 microg/ml) against S-180 tumor cells in culture, while cuphiin D1 resulted in the greatest increase in survival on S-180 tumor-bearing mice (%ILS = 84.1%). Our findings suggest that the antitumor effects of these compounds are not only related to their cytotoxicity on carcinoma cell lines, but also depended on a host-mediated mechanism; they may therefore have potential for antitumor applications.