Antiproliferative xanthone derivatives from Calophyllum inophyllum and Calophyllum soulattri

ABSTRACT

Structure-activity relationships of eleven xanthones were comparatively predicted for four cancer cell lines after the compounds were subjected to antiproliferative assay against B-lymphocyte cells (Raji), colon carcinoma cells (LS174T), human neuroblastoma cells (IMR-32) and skin carcinoma cells (SK-MEL-28). The eleven chemical constituents were obtained naturally from the stem bark of Calophyllum inophyllum and Calophyllum soulattri. Inophinnin (1) and inophinone (2) were isolated from Calophyllum inophyllum while soulattrin (3) and phylattrin (4) were found from Calophyllum soulattri. The other xanthones were from both Calophyllum sp. and they are pyranojacareubin (5), rheediaxanthone A (6), macluraxanthone (7), 4-hydroxyxanthone (8), caloxanthone C (9), brasixanthone B (10) and trapezifolixanthone (11). Compound 3 was found to be the most cytotoxic towards all the cancer cell lines with an IC50 value of 1.25μg/mL while the simplest xanthone, compound 8 was inactive.