Antiproliferative properties of clausine-B against cancer cell lines.

Abstract

Background: Clausine B, a carbazole alkaloid isolated from the stem bark of Clausena excavata, was investigated for its antiproliferative activities against five human cancer cell lines: HepG2 (hepatic cancer), MCF-7 (hormone-dependent breast cancer), MDA-MB-231 (non-hormone-dependent breast cancer), HeLa (cervical cancer), and CAOV3 (ovarian cancer). Methods: Chang liver (normal cells) was used as a control. The effect of clausine-B was measured using the MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay. Results: Clausine-B was found to be active (IC 50<30 μg/mL) against four of the cancer cell lines tested. The IC 50 values for these four lines were: 21.50 μg/mL (MDA-MB-231), 22.90 g/ml (HeLa), 27.00 μg/mL (CAOV3) and 28.94 μg/mL (HepG2). Clausine-B inhibited the MCF-7 cancer cell line at 52.90 μg/mL, and no IC 50 value was obtained against Chang liver. Conclusion: It is possible that the phenolic group in clausine-B responsible for the antiproliferative activities found in this study.

Keyword: Cell survival; Clausena excavata; Clausine-B; Ethnopharmacology; Medical sciences