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• 中文摘要

薑科植物具有開發抗癌活性成分之潛力，本年度探討閉鞘薑之抗癌活性成分。閉鞘薑屬在台灣僅有一種，即爲閉鞘薑，細胞毒性顯示：其根莖之 50%甲醇萃取物具有抑制癌細胞之作用(AGS, Hep G2, HeLa,HT-29, T 24 and HL-60) 且對正常細胞株 and normal (Chang liver, 3T3 and WI 38) 毒性較小，經乙酸乙酯分佈分離後之乙酸乙酯層具有更強之抑制癌細胞生長作用，且餵服此萃取物 100μg／kg 會延長 P-388CDF1 擔癌鼠之生命。因此利用活性追蹤法進行主要抗癌活性成分之分離，並利用儀器分析方法，判斷鑑別成分之結構。結果分離得到皂素?類分別爲 prosapogenin A of dioscin anddioscin，此兩成分亦會誘導 HT-29 細胞進行凋亡。

• 英文摘要

The endemic plants of Taiwan are a good source to develop new drugs. Cancer has been reported as a serious cause of death in humans. Therefore, it has become every urgent to develop new antitumor drugs to resolve these problem. Our previous study demonstrated that Zingiberaceae plants are high potential candidates to develop as anticancer drugs. In present study, the antitumor principal constitutes of Costus speciosus (Koenig) Smith (CS) will be continuously explored. The plant was extracted with 50% EtOH and cytotoxicity effects of extracts were evaluated by MTT assay in tumor (AGS, Hep G2, HeLa, HT-29, T 24 and HL-60) and normal (Chang liver, 3T3 and WI 38) cell lines. The cytotoxicity principle constituents will be isolated, purified and structurally determined by a bioassay-guided method in this proposal. The potential compounds will be tested in P-388D1 tumor-bearing mice, and in vivo antitumor effect will be identified. CS extracts were partitioned with EtOAc (CSE) and H2O, the

EtOAc layer was more cytotoxic than aqueous layer, and the IC50 value was 14.46, 21.71, 4.36, 10.25, and 13.75 .mu.g／mL in AGS, HeLa, T 24, HT 29 and Hep G2 cell lines, respectively. Moreover, CSE could significantly prolong the survival days of P388D1 bearing CDF1 mice after treating 100mg／kg for 9 days. CSE was loading on silica gel column and two saponins were isolated, purified and structurally determined by a bioassay-guided method. The two steroidal saponins, prosapogenin A of dioscin and dioscin also inhibited the growth of AGS, HeLa, T 24, HT 29 and Hep G2 cell lines. In according to the above results, the two saponins might be as lead compounds to develop anti-tumor drugs in the future.