เอกสารอ้างอิง (References)

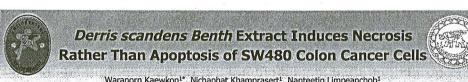
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ผลลัพธ์ (Output)

1. การนำเสนอผลงานวิจัยในงานประชุมระดับชาติ รูปแบบ การนำเสนอโปสเตอร์ งานประชุมวิชาการครั้งที่ 33 สมาคมเภสัชวิทยาแห่งประเทศไทย ณ ภาควิชาเภสัชวิทยา คณะ วิทยาศาสตร์ มหาวิทยาลัยสงขลานครินทร์ วันที่ 17-19 มีนาคม 2554



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INTRODUCTION



Colon cancer is the third most common cause of cancer-related death in the world and one of cancer that can be prevented. Western style diet (high levels of fat and red meat, and low dietary fiber) is the major risk factor of colon cancer. Since diet is definitely important for colon cancer development, dietary interventions are received much attention as one of the approaches to prevent this cancer.



Derris scandens Benth. (leguminosae), local Thai name, Tao-Wan-Priang, is a wellknown as Asian medicinal plant. Its dried stem has been used as an expectorant, anti-tussive, diuretic and anti-dysentery agent and treatment of muscle aches and pains.

From our previous study, Derris scandens Benth showed antiproliferative effect on colon cancer cell lines. The reduction of colon cancer cell viability might partially due to cell apoptotsis or cell cycle arrest. According to our preliminary study, Derris scandens Benth tended to induce colon cancer cell apoptosis.

Therefore, in the present study, we will test the effect of Derris scandens Benth on cell apoptotic pathways by measuring caspase-3 activity and the expression of Bcl-2 and Bax proteins.

OBJECTIVE

To investigate the apoptotic pathways induced by Derris scandens Benth in colon cancer cell lines.

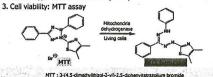
METHODS

1. Preparation of Derris scandens Benth

The materials were cut and dried at 55 C. The dried materials were macerated with ethanol for three days. The filtrates were pooled and evaporated to provide ethanolic extracts.

2. Cell culture

The SW480 human colorectal cancer cells were purchased from American Type Culture Collection (ATCC).

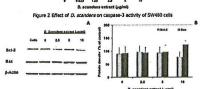


METHODS (cont.)

4. Caspase-3 activity: EnzChek® Caspase-3 assay kit

Z-DEVD-R110 Z-DEVD + R110 5. Expression of Bcl-2 and Bax: Immunoblotting

RESULTS



CONCLUSION

The extract from Derris scandens Benth at concentration above 25 $\mu g/ml$ could dramatically reduce cell viability of SW480 colon cancer cells. This extract slightly increased caspase-3 activity, up-regulation of Bax pro-apoptotic protein and down-regulation of Bcl-2 anti-apoptotic protein. It also leads to substantially release of LDH from SW480 cells. Taken all data together, D. scandens decreased colon cancer cell viability by induction of cell necrosis rather than cell apoptosis.

ACKNOWLEDGEMENTS

This study was financial supported by the National Research Council of Thailand to Naresuan University.

2. เผยแพร่บทความวิจัยในวารสารระดับชาติ

Derris scandens Benth Extract Induces Necrosis Rather Than

Apoptosis of SW480 Colon Cancer Cells

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(บทความวิจัยแนบท้ายภาคผนวก)