中南大学学报(医学版) 2012, 37(1) 42-47 DOI: 10.3969/j.issn.1672-7347.2012.01.008 ISSN: 1672-7347 CN: 43-1427/R

论著

香椿叶提取物抗氧化和抑制癌细胞增殖的研究

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摘要:

目的:研究香椿叶提取物抗氧化和抑制细胞增殖的活性。**方法**:借助溶剂浸提和聚酰胺树脂获得香椿叶的总酚提取物进而考察其含量。采用TOSC实验衡量香椿叶提取物的总抗氧化活性,同时利用体外实验观察其对人类不同类型癌细胞生长的抑制作用。**结果**:香椿叶提取物的总酚含量为(427.53±4.31) mg/g,每克样品的抗氧化活性达到807.64 μmoL维生素C 当量。提取物可以显著抑制人肠癌细胞Caco-2、肝癌细胞$HepG_2$和乳腺癌细胞MCF-7的生长,其EC_{50}分别为 (4.00±0.39),(153.16±13.49),(193.46±14.68)μg/mL。香椿叶提取物的生物活性指数(BI)约283,肠癌细胞Caco-2对提取物的敏感性超过了乳腺癌细胞MCF-7和肝癌细胞$HepG_2$。**结论**:香椿叶提取物具有一定抗癌功效,对慢性疾病的预防具有应用价值。

关键词: 香椿 酚类物质 抗氧化 抑制增殖 癌症

Antioxidization and antiproliferation of extract from leaves of *Toona sinensis*

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Abstract:

Objective: To determine the antioxidization and antiproliferation of extract from leaves of *Toona sinensis* (LTS). Methods: The total phenolic extract of LTS was obtained by solvent and polyamide resin to determine the content. The antioxidization of the LTS extract was measured by TOSC assay. Antiproliferation was studied in vitro with different human cancer cells. Results: The total phenolic content in the LTS was (427.53±4.31) mg/g and antioxidization was 807.64 μmoL vitamin C equivalents/g in the sample. The extract significantly inhibited the colon cancer cell Caco-2, human liver cancer cell $HepG_2$ and breast cancer cell MCF-7 proliferation with EC_{50} (4.00±0.39), (153.16±13.49) and (193.46±14.68) μg/mL, respectively. The bioactivity index (BI) of the LTS extract was nearly 283. Caco-2 was more sensitive than MCF-7 and $HepG_2$. Conclusion: Extract from LTS has anticancer properties useful for preventing chronic diseases.

Keywords: *Toona sinensis* phenolics antioxidant antiproliferation cancer

收稿日期 2011-04-22 **修回日期** **网络版发布日期**

DOI: 10.3969/j.issn.1672-7347.2012.01.008

基金项目:

This work was supported by National Key Technology R&D Program in the 11th Five year Plan of China (2006BAD27B00).

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