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荭草对H<sub>2</sub>O<sub>2</sub>诱导的心肌细胞氧化损伤 保护作用的谱效关系研究

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中文摘要:目的:研究荭草中花梗、带叶嫩枝和粗茎对H<sub>2</sub>O<sub>2</sub>诱导H9c2心肌细胞氧化损伤的保护作用,探讨其抗心肌缺血的药效物质基础。方法:建立荭草中花梗、带叶嫩枝和粗茎的UPLC指纹图谱,对色谱峰进行归属确认,同时观测荭草中花梗、带叶嫩枝和粗茎不同配比组合物对心肌细胞氧化损伤的保护作用(应用MTT法作为浓度筛选和细胞存活率判定指标,并检测丙二醛含量),将各组合物活性信息与其相应的UPLC指纹图谱化学信息进行相关性分析研究,推测药效物质基础。结果:荭草中带叶嫩枝和花梗对H<sub>2</sub>O<sub>2</sub>诱导H9c2心肌细胞氧化损伤具有明显的保护作用,谱效相关性研究发现,3-5,11-14,18-21,25号色谱峰与抗氧化活性呈正相关。

结论:通过谱效研究,推测了荭草抗氧化损伤的活性成分,为荭草药材深层次研究开发奠定一定的实验基础。

中文关键词:荭草 谱效关系 H9c2心肌细胞 氧化损伤

## Study on fingerprint-pharmacology correlation of protective effect of *Polygonum orientale* on myocardial cell oxidativeinjury induced by H<sub>2</sub>O<sub>2</sub>

**Abstract/Objective:** To study the protective effect of flowers, branch with leaves and main stem of *Polygonum orientale* on H9c2 myocardial cells oxidative injury induced by H<sub>2</sub>O<sub>2</sub>, and discuss its efficacious substance foundation of anti-myocardial ischemia. **Method:** UPLC fingerprint was established for flowers, branch with leaves and main stem of *P. orientale*, and the chromatographic peak was identified. Meanwhile, the protective effect of composites of flowers, branch with leaves and main stem of *P. orientale* in different proportions on myocardial cells oxidative injury was observed (with MTT method as indicators of concentration screening and cell viability) and MDA were detected. The correlation analysis was made between activity information of composites and chemical information of UPLC fingerprint to infer efficacious substance foundation. **Result:** Branch with leaves and flowers from *Polygonum orientale* showed a protective effect on H9c2 myocardial cells oxidative injury. According to the study on spectrum-activity relationship, peak 3-5, 11-14, 18-19, 21-25 showed a positive correlation with their antioxidant activities. **Conclusion:** This study determined activity of *Polygonum orientale* on anti-oxidative injury, laying an experimental foundation for in-depth study and development of *P. orientale* herbs.

**Keywords:** *Polygonum orientale* fingerprint-pharmacology correlation H9c2 myocardial cells oxidative injury

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