

## 酶解法辅助浸渍提取两面针中总生物碱的工艺优选

投稿时间: 2012-08-08 [点此下载全文](#)

引用本文: 陆世惠,邓风云,卢红梅,陈楠,林瑶.酶解法辅助浸渍提取两面针中总生物碱的工艺优选[J].中国实验方剂学杂志,2012,18(23):43~45

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基金项目:右江民族医学院课题(右医科学[2011]1号)

中文摘要:目的: 优选酶解法辅助浸渍提取两面针中总生物碱的工艺。 方法: 以总生物碱提取率为指标,采用单因素试验考察酶的种类、加酶量、pH、酶解温度及时间对酶解工艺的影响;以总生物碱提取率为指标,采用正交试验考察提取次数、提取时间及乙醇体积分数对两面针总生物碱浸渍提取工艺的影响。 结果: 酶解工艺条件为纤维素酶、果胶酶与底物质量比均为1:250,4倍量pH 5缓冲液,室温(30 ℃)下酶解30 min;最佳浸渍提取工艺为以12,4,3倍量60%乙醇溶液(盐酸质量浓度5 g · L<sup>-1</sup>)室温下浸渍3次,每次2 h,总生物碱提取率85.22%。 结论: 该优选的工艺简单高效、节能环保,为工业生产提供实验依据。

中文关键词:[两面针](#) [总生物碱](#) [酶法](#) [正交试验](#) [浸渍](#)

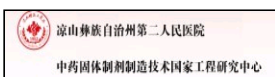
## Optimization of Extracting Technology for Total Alkaloids from *Zanthoxylum nitidum* by Enzymatic Hydrolysis Assisted Immersion Method

**Abstract:** Objective: To optimize extracting process of total alkaloids from *Zanthoxylum nitidum* by enzymatic hydrolysis assisted immersion. Method: With extraction rate of total alkaloids as index, effect of 5 factors on enzymatic technology was investigated by single factor test, including kind of enzyme, enzyme dosage, pH, temperature and time; extraction times, extraction time and the concentration of ethanol were chosen as factors, effects of 3 factors on immersion technology of total alkaloids from *Z. nitidum* was optimized by orthogonal test. Result: Optimized enzymatic hydrolysis process was as following: cellulase-substrate and pectinase-substrate of 1:250, 4 times buffer with pH 5, enzyme pretreating for 30 min at ambient temperature (30 ℃); Optimum immersion extracting technology was following: extracted 3 times with 60% ethanol of 12, 4, 3 times amount (hydrochloric acid of 5 g · L<sup>-1</sup>), at ambient temperature, 2 h each time. Extraction rate of total alkaloids of 85.22% by this process. Conclusion: This optimized process was simple, efficient, energy saving and environmentally friendly, and it could provide experimental base for industrial production.

**keywords:** [Zanthoxylum nitidum](#) [total alkaloids](#) [enzymatic](#) [orthogonal test](#) [immersion](#)

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