

---

## 摘 要

现今,关于羊肚菌蛋白提取的研究与报道仍然缺乏。为了拓宽羊肚菌菌丝体蛋白在多个行业的应用,筛选出最佳的提取羊肚菌蛋白工艺条件,更加有利于羊肚菌蛋白质商业化,规模化,在多个领域有所广泛涉猎。

本试验的试验原料选取了野生的羊肚菌子实体,借助超声波,采用碱提酸沉法以得到羊肚菌中的蛋白质。之后通过一系列单因素实验,研究有关因素与羊肚菌子实体蛋白质提取率的关系。用单因素分析之后发现 pH 值、提取温度、提取时间对实验影响都较大,所以各个因素之间可能存在交互影响。所以对实验结果进行优化,采取响应面优化方法。

经过一系列的实验研究表明当提取条件的 pH 达到 10,提取温度为 50℃的时候,超声提取时间为 65min 情况下为最佳提取条件。

**关键词** 超声波辅助 碱沉酸提法 单因素分析 响应面法优化

---

## Optimization of protein extraction process of morchella

### Abstract

Nowadays, research and reports on the extraction of morel proteins are still lacking. In order to broaden the application of morel mycelium protein in many industries, the best extraction of the process conditions of extracting morel protein is more conducive to the commercialization and scale of morel protein, which has been widely used in many fields.

The experimental raw materials of this experiment were selected from the wild Morchella fruiting entity and the protein in the morel was obtained by ultrasonic acid precipitation method. Then, through a series of single factor experiments, the relationship between the factors and the protein extraction rate of the Morchella fruit body was studied. After single factor analysis, it was found that the pH value, extraction temperature and extraction time had great influence on the experiment, so there may be interaction between various factors. So, it is necessary to optimize the experimental results and adopt a response surface optimization method.

The experimental results show that the optimum extraction conditions are pH=10, extraction temperature is 50 °C, and ultrasonic extraction time is 65 min.

**Key words:** Ultrasound-assisted Alkali-salt extraction Univariate analysis  
Response surface optimization

---

# 目 录

摘 要 .....	I
第一章 绪 论 .....	II
1.1 羊肚菌的研究概况 .....	1
1.1.1 分类 .....	1
1.1.2 分布 .....	2
1.1.3 营养组成 .....	2
1.1.4 生态多样性 .....	3
1.1.5 利用开发情况 .....	4
1.2 蛋白提取方法 .....	4
1.2.1 有机溶剂提取法 .....	4
1.2.2 酶法 .....	5
2.3 碱提酸沉法 .....	5
2.4 双水相萃 .....	5
第二章 羊肚菌蛋白提取工艺优化 .....	6
2.1 前言 .....	6
2.2 材料和仪器 .....	6
2.2.1 实验材料和试剂 .....	6
2.2.2 实验仪器 .....	6
2.3 实验方法与结果 .....	6
2.3.1 基本成分测定方法 .....	7
2.3.2 原料预处理方法 .....	7
2.3.3 羊肚菌提取工艺 .....	7
2.4 本章小结 .....	13
第三章 结论与展望 .....	15

---

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：

<https://d.book118.com/065221344240012002>