**Title:**

**Nutrient composition and biological activity of *Craterellus cornucopioides.***

**Abstract:**

**Keywords:**

*Craterellus cornucopioides*

Nutritional composition

Polysaccharides

Biological activity

1. **Introduction**
2. **Materials and methods**
   1. *Materials and chemicals*

The fruiting body of *Craterellus cornucopioides* was purchased from Sichuan Provinces of Southwest China. DPPH, 2,6-ditert-butyl-4-methylphenol (BHT), ethylenediaminetetraacetic acid (EDTA) and standard monosaccharide materials were purchased from Sigma-Aldric (Germany). All other chemicals used in this study were analytical reagent grade and purchased from Sinopharm Chemical Reagent Co. Ltd. (Shanghai, China).

* 1. *Preparation of water-soluble polysaccharides*

The water soluble polysaccharide was prepared by slightly modifying the previous method. The powder (8 g) was immersed in 95% (v/v) ethanol for 12 hours to remove residual low molecular weight components. The materials were then extracted with hot water (1:20, w/v) at 85 ° C for 3 hours. The supernatant was evaporated under reduced pressure at 45 ° C using a rotary evaporator, and the protein was removed using a Sevag reagent (chloroform: n-butanol, 4:1 (v/v)), and the resulting liquid was dialyzed against tap water for 24 hours, and dialyzed (Mw cutoff 3000 Da) against distilled water for 12 hours. Finally, the liquid was concentrated by precipitation with 4 volumes of 95% (v/v) ethanol at 4 ℃ for 24 hours. The precipitate obtained by centrifugation (2654 × g, 10 min, 4 ℃) was finally lyophilized to obtain a crude polysaccharide.

* 1. *Determination of nutrients*
  2. *Molecular weight determination*

The Molecular weight determination was measured by high-performance gel permeation chromatography (HPGPC) with an Agilent 1100 HPLC system equipped with Waters 2410 refractive index detector and a TSK-GEL G5000 PW x 1 column (7.8 × 300 mm, Tosoh Corp, Japan)1. Ultrapure water as the mobile phase, it flowed at a rate of 0.8 mL/min and a temperature of 30 °C. A 20 μL material of polysaccharide solution (2.0 mg/mL) was injected in each run. A standard curve was created using a dextran standard in 3.0 to 670 kDa (Sigma).

* 1. *FT-IR and ultraviolet analysis*

The FT-IR spectrum of the polysaccharide was obtained using Fourier transform infrared spectroscopy (Nexus 5DXC FT-IR, Nicolet). The polysaccharide (about 1 mg) was ground with 100 mg of KBr powder, compressed into pellets, and then scanned for FT-IR measurements of the frequency range of 400-4000 cm-1. A UV-visible (UV) absorption spectrum was obtained using a UV-visible spectrophotometer (UV-2450, Shimadzu, Japan).

* 1. *Statistical analysis*

1. **Results and discussion**
   1. *Determination of nutrients*
   2. *Monosaccharide composition*
   3. *Molecular weight determination*
   4. *FT-IR spectral analysis*
2. **Conclusion**

**Conflict of Interest**

**Acknowledgments**

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**References Primary Sources**

**Secondary Sources**

**Uncategorized References**

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