



Let food be our first medicine™

Mushroom extracts and Mushroom powders

**Home**

- Let food be our first medicine™
- About us
- Leadership not imitation
- Quality control
- Beware of imitation products

**Mushroom extracts**

**Mushroom powders**

**Mushroom articles**

- Auricularia Auricula research
- Agaricus Blazei research
- Cordyceps CS-4 research
- Cordyceps Sinensis research
- **Coriolus Versicolor, PSP, PSK**
- Coriolus PSP research
- Hericium Erinaceus research
- Maitake research
- Polyporus research
- Reishi research
- Shiitake research
- Mycelia or fruitbodies?

**How to order**

Contact us



100% organic mushrooms

**Articles >**

**Coriolus Versicolor mushroom research: PSP, PSK**

When studied with modern clinical science, many medicinal mushrooms used in traditional Asian remedies have been found to possess powerful biological compounds.

Coriolus Versicolor (Trametes Versicolor) has been one of the most thoroughly researched mushrooms and is the subject of the most long-term human studies, particularly in the area of anti-cancer research.

**PSP-scientifically proven extract from Coriolus**

Known as the "Turkey Tail" in North America, Coriolus is found in the wooded temperate zones of the Northern Hemisphere. In Japan, it is called "Kawaratake" and in China, where it has been used in traditional remedies as a medicinal mushroom for liver, respiratory and immune system conditions, it is known as "Cloud Mushroom".

A number of chemically distinct extracts are produced from Coriolus, including PSP, a Polysaccharide-Peptide, and PSK, a protein-bound polysaccharide.

These immune stimulating compounds act as "biological response modifiers," making them the world's best-selling drugs for cancer therapy.

In the 1980's, Chinese researchers isolated PSP from the mycelia of a different strain of Coriolus: the Coriolus Cov-1 strain.



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It is chemically similar to PSK, but differs from PSK in its strain and has a different monosaccharide composition and molecular weight.

With over 480 double-blind clinical studies, PSP has been proven to have potent immune stimulating and anti-tumour capacities, at a total effective rate over 82%<sup>1</sup>.

**PSP vs. PSK**  
(table 1)

Terms	PSP	PSK
Strain	COV-1	CM-101
Material	Liquid cultured mycelia	Fermented mycelia
Extraction method	Hot water extract,	Hot water extract,

**PSP vs. Fruitbodies**  
(table 2)

Terms	PSP	Fruitbodies Extract
U.V. spectrum	Max. abs. at 420, 487 nm	Max. abs. at 486, 671 nm
I.R. spectrum	Obvious abs. at 1,380 nm	No obvious abs. at 1,380 nm
Polysaccharides	30%-35%	30%-45%

	precipitated with ethanol	precipitated with (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	Mono-saccharide	Galactose + Mannose Xylose Arabinose Rhamnose Glucose Fucose	Galactose - Mannose Xylose Arabinose Rhamnose Glucose Fucose
Mono-saccharide	Galactose Mannose Xylose Arabinose + Rhamnose + Glucose + Fucose -	Galactose Mannose Xylose Arabinose - Rhamnose - Glucose - Fucose +	Clinical studies	Anti-cancer and immune stimulation	Hepatitis B and immune stimulation
Glucans	a(1-4), b(1-3), and b(1-6)	b(1-4), b(1-3), and b(1-6)	Although the polysaccharide portion of a fruit body-derived extract is similar to PSP, it has no peptides and is still not a PSP. Where there is polysaccharide there is polypeptide <sub>2</sub> .		
Molecular weight	100K Da.	94K Da.			

### Real PSP is never produced from fruitbodies

Published scientific studies of PSP have used only extracts derived from the mycelia stage of the mushroom lifecycle, not extracts from fruitbodies (mature mushrooms). The PSP extracted from **mycelia** is chemically different to extracts from the fruit body later in **the mushroom lifecycle**. There are differences in monosaccharide composition (PSP has Galactose, see table 2) and protein composition (PSP has peptides).

It is the chemical composition of PSP from mycelia that has been the subject of scientific research.

The only known process capable of producing the pure and potent Coriolus Versicolor mycelium needed as the raw material for research-quality PSP is to extract from mycelia produced through deep layer cultivation in pharmaceutical grade sterile production facilities.

### Always seek medical advice

Information provided on this website is provided for information purposes only and is not intended to replace advice from a qualified medical practitioner.

For information about medical conditions please consult your doctor.

### Coriolus Versicolor original research

As the leader in standardised mushroom extracts we believe passionately in sharing information from the growing body of published research on medicinal mushrooms. This is for education purposes only and MYCOPHARMA® cannot and does not vouch for the accuracy of independent research. To make your own informed decisions please refer to the original published research about Coriolus Versicolor.

1. YANG QY, KWOK CY, XU SJ, EDS. 1993 PSP INTERNATIONAL SYMPOSIUM ANTHOLOGY OF THESE AND ABSTRACTS. SHANGHAI: FUDAN UNIVERSITY PRESS; 1993.  
2. JOHN E. SMITH ET AL. MEDICINAL MUSHROOMS: THEIR THERAPEUTIC PROPERTIES AND CURRENT MEDICAL USAGE WITH SPECIAL EMPHASIS ON CANCER TREATMENTS: EXTRACTION, DEVELOPMENT AND CHEMISTRY OF ANTI-CANCER COMPOUNDS FROM MEDICINAL MUSHROOMS, CHAPTER 5.

