

FERMOGULAN™

The most promising ingredient for healthy aging!

Info and scientific background

Conversion of the saponins (gypenosides) to their bioactive form
Higher bioavailability of all active substances
Formation of SOD-like substances or smaller active antioxidant molecules
Much lower daily dose needed

What is Fermogulan™?

Fermogulan™ is fermented jiaogulan or *Gynostemma pentaphyllum* (Thunb.), a climbing perennial vine of the Cucurbitaceae family native to certain parts of South and Southeast Asia. In **ancient China**, jiaogulan was basically used as an **energizing agent** and **rejuvenating elixir**.

This '**immortality herb**' has been made even more powerful than it already is through a **patented and innovative Biotransforming Fermentation Technology!**

Fermogulan™ contains polysaccharides, vitamins (carotene), amino acids, **flavonoids** and **Dammarane-type saponins** (gypenosides). Circa 25% of the jiaogulan gypenosides are like ginsenosides found in *Panax ginseng*. **Guarantee of Quality:** 100% natural, wild-growing, no pesticide residues, no preservatives, no heavy metal contamination and non-GMO.

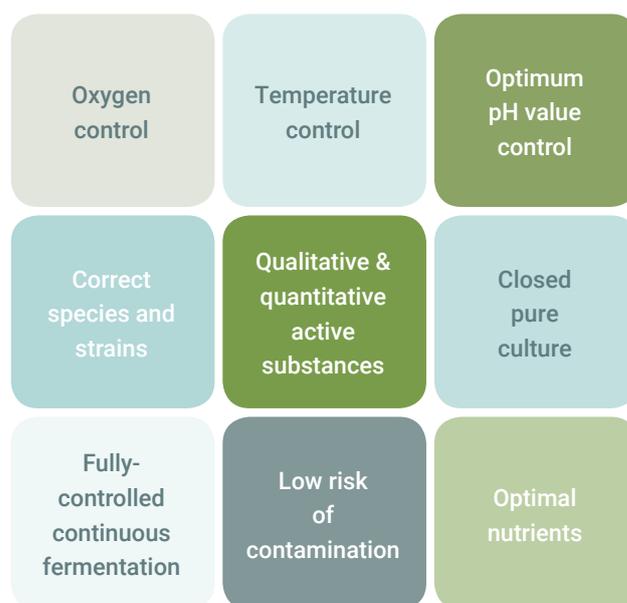
Why ferment jiaogulan?

An **innovative functional-oriented and microbial fermentation** creates a **biotransformation** of the **secondary metabolites** of jiaogulan. During fermentation microbial enzymes transform poorly available herbal components into more easily absorbable health-promoting metabolites!

What is this transformation all about?

The active components of the jiaogulan plant are essentially gypenosides, also called saponins.

Beneficial properties of the fermentation process



The fermentation of plant extracts is still very new, and the focus is mainly on the **conversion of the original glycosylated saponins to the more active form**. Due to their bulky molecular structures, the gypenosides are poorly membrane permeable and must therefore be further degraded.

The mass of the original gypenosides decreases after fermentation due to the removal of the sugar molecules from the gypenosides. This process is called **deglycosylation**. The form is the so called aglycone form, which is permeable and hence **directly bioactive**. **Smaller molecules that are very active and well-studied, penetrate the body more easily!**

Formation of new components as the rare ginsenosides

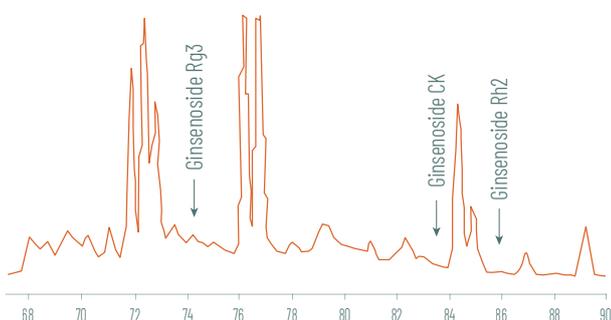
Enrichment in Compound K, Rg3 and Rh2

HPLC fingerprint analysis of rare ginsenosides in wild-growing jiaogulan before (A) and after (B) fermentation.

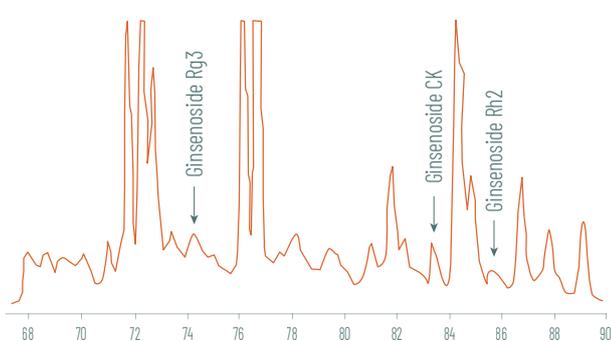
In comparison with native (unfermented) wild-growing jiaogulan, fermented wild-growing jiaogulan contains about:

- » **13-fold** more ginsenoside CK (Compound K)
 - anti-inflammatory effect
- » **3-fold** more ginsenoside Rg3
 - tumor inhibition
- » **2-fold** more ginsenoside Rh2
 - neuroprotective

(A) HPLC profile of native (unfermented) wild-growing jiaogulan



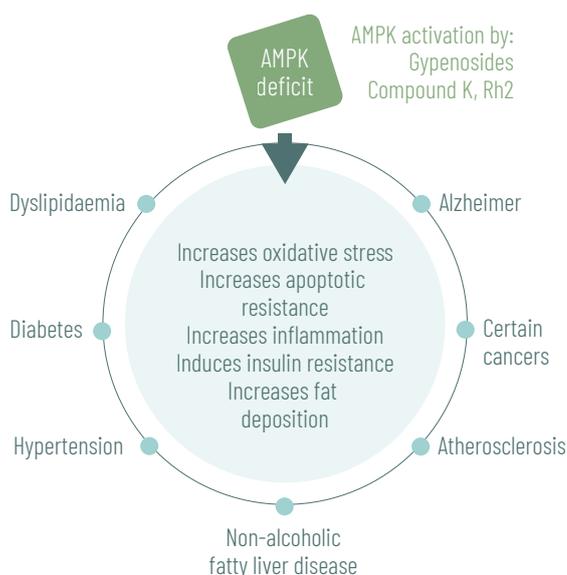
(B) HPLC profile of fermented wild-growing jiaogulan



TYPE OF EXTRACT	DOSAGE
Powder	150 - 250 mg/day
USE	
Nutritional supplements and functional food	
STANDARDIZED ON	
Total gypenosides > 110.0 mg/g	

Health Benefits

- Unique adaptogen that counteracts the negative effects of stress
- One of the most superior antioxidants in the plant world
- Helping slow down ageing by means of AMPK activation
- Lowering blood glucose and Hemoglobin A1c (HbA1c) levels by significantly improving the insulin sensitivity of the cells
- Supporting cardiovascular health by neutralizing the oxidative damage to the arteries and regulating the blood pressure by stimulation of nitric oxide (NO)
- Modulating the immune system
- Promoting weight loss by activating AMPK and improving insulin sensitivity
- Having anti-viral, anti-fungal and anti-bacterial properties and can be used in the prevention of colds and the flu.



Science

Many studies show the therapeutic properties of jiaogulan. It is therefore scientifically very well founded. However, it is important that the **gypenosides** are available **in their easily absorbable form** because this is a condition for the therapeutic power of this promising plant!

References are available upon request.