



# NORDIC CHAGA

## ORGANIC EXTRACT POWDER

### Product Information

<b>Description:</b>	Extract powder made from organic chaga ( <i>Inonotus obliquus</i> ) conks.
<b>Country of Origin:</b>	Finland
<b>Certifications:</b>	EU/USDA certified organic
<b>Extraction:</b>	Made bioavailable through Ultrasonic Assisted Extraction
<b>Compounds of Interest:</b>	NLT 10% <i>Beta-glucans</i>
<b>Moisture Ratio:</b>	8-10%
<b>Particle size:</b>	50 microns

### Materials used

<b>Mushroom:</b>	Chaga Botanical: <i>Inonotus obliquus</i> <b>Only conks used</b> (Chaga is not a fruiting body, but a mushroom conk)
<b>Extraction solvents:</b>	Water
<b>Origin of raw materials:</b>	Chaga: Finland, organic certified forests Purified water: Finland

### Mushroom growing medium

<b>Substrate:</b>	Living Birch (Betula)
<b>Certification:</b>	Organic
<b>Source:</b>	Finland

### Processing & Extraction

<b>Processing of mushrooms:</b>	Drying chaga conks, grinding, Ultrasonic Assisted Extraction, drying, pulverizing, 3rd party lab testing
<b>Ultrasonic Assisted Extraction:</b>	Through ultrasonication, the mushroom (chitin) cell walls are broken in order to increase bioavailability of compounds. Ultrasonic assisted water extraction guarantees that our mushroom extracts have the full spectrum of bioactive compounds. <sup>1</sup>
<b>Manufacturing location:</b>	Finland, KÄÄPÄ Headquarters

### Certificates

<b>Organic certifying body:</b>	Finnish Food Authority & USDA
---------------------------------	-------------------------------

---

<sup>1</sup> <https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/ultrasound-assisted-extraction>



## Quality Control

### Microbiological range:

Total count of colony forming units (CFU)	< $1.0 \times 10^4$ (CFU/g) at 30 °C
Mold	< $1.0 \times 10^2$ (CFU/g)
Yeast	< $1.0 \times 10^2$ (CFU/g)
E.Coli	< $1.0 \times 10^1$ (CFU/g)
Salmonella	Not detected

### Heavy metal range:

Arsenic	< 1.0 ppm
Cadmium	< 1.0 ppm
Mercury	< 0.1 ppm
Lead	< 1.0 ppm

### Analytical values:

Batch specific microbiological and heavy metal analysis provided upon request.

## Overview of Chaga

**Chaga (*Inonotus obliquus*) has been used for a long time for its high levels of antioxidants<sup>2</sup>, and to regulate gut microbiota<sup>3</sup>. Chaga has also been shown to inhibit oxidative DNA & RNA damage.<sup>4</sup> A study shows that Chaga grown in Finland tested to have the highest concentration of  $\beta$ -(1,3)-(1,6)-D-glucans and triterpenoid compounds<sup>5</sup>.**

**With Ultrasonic Assisted Extraction,** we also make sure the non-water soluble compounds (f.ex. triterpenoids) are made bioavailable.

Our foraging network harvests Chaga in organic certified forests of Lapland, Finland.

## Compounds of Interest

### Beta-Glucans

Assay: NLT 10%

<sup>2</sup> [https://www.istage.jst.go.jp/article/cpb/55/8/55\\_8\\_1222/article](https://www.istage.jst.go.jp/article/cpb/55/8/55_8_1222/article)

<sup>3</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5309192/>

<sup>4</sup> <https://www.ncbi.nlm.nih.gov/pubmed/15630179>

<sup>5</sup> [http://caod.oriprobe.com/articles/43332807/Comparison\\_of\\_component\\_from\\_different\\_species\\_of\\_Inonotus\\_obliquus.htm](http://caod.oriprobe.com/articles/43332807/Comparison_of_component_from_different_species_of_Inonotus_obliquus.htm)

### Bioavailable Compounds

- $\beta$ -(1,3)-(1,6)-D-glucans
- Triterpenoids
- Betulinic acid
- Sterols
- Melanin

### Potential benefits

- Protect and support DNA<sup>6</sup>
- Protect against chronic inflammation<sup>7</sup>
- Scavenge free radicals to protect cells<sup>8</sup>
- Reduce growth of various cancers<sup>9</sup>
- Suppress tumor growth<sup>10</sup>
- Support immune system<sup>11</sup>

---

## Nordic Mushrooms

**Why is it important to know where your mushrooms come from?** KÄÄPÄ Biotech controls the Nordic Mushrooms process from *spore to shipment*: Quality, transparency and product safety are everything when it comes to medicinal mushroom extracts.

**Nordic Mushrooms certificate guarantees** you and your customers that the mushrooms have grown in a pure environment and that only fruiting bodies were used in the process. Through our Extraction 2.0 we make the *Compounds of Interest* bioavailable.

Nordic Mushrooms stands for an honest  
and potent mushroom extract.

---

<sup>6</sup> <https://www.ncbi.nlm.nih.gov/pubmed/15630179>

<sup>7</sup> <https://www.sciencedirect.com/science/article/pii/S014181301630229X?via%3Dihub>

<sup>8</sup> <https://onlinelibrary.wiley.com/doi/abs/10.1002/pca.1225>

<sup>9</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4388940/>

<sup>10</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4946216/>

<sup>11</sup> <https://thescipub.com/abstract/10.3844/ajiptsp.2007.10.17>