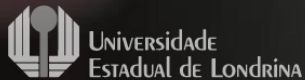


Nutreo  
iluma<sup>®</sup>

We have  
**people + capabilities**  
specialized in

# Food Science



# The Nutreo Method

**SMART** SOLUTIONS



## INTENTION

Intention to increase the nutritional and functional value of a product



## KNOWLEDGE

Designer Team  
Development team  
Datability  
Food Science  
Science of mixing  
Technology  
Innovation engine



## FORMULA

Customized, tested and validated



## FUTURE

Supporting future growth as a reliable ally

**Ganogen Reishi**<sup>®</sup>

# REISHI MUSHROOM HISTORY

**+ 4000 years**

Liu, et al., 2014

**Ancient Chinese  
medicine**

**90's**

Berovic et al., 2003  
Sanodiya et al., 2009  
Zhou et al., 2012

**Prevention and treatment  
of different diseases.  
Strengthening the immune system**

**2000's**

Baby S, et al., 2015  
Liang C, et al., 2019

**Structure and  
mode of action**

**Ganoderic acids +140  
types**

Anti-HIV-1, anti tumor, chronic inflammation due to bronchitis , hyperlipidemia, hypertension, neurasthenia , hepatitis, leukopenia , cancer, insomnia, arthritis, asthma, anti-inflammatory, immunomodulatory , anti-androgenic, antimicrobial and hypoglycemic activities.

**β -glucans**

**α - glucans**



## REISHI MUSHROOM HISTORY

# Ganogen Reishi<sup>®</sup>

Clinical trials in adults and children :

- Shake supplement.
- Supplements.
- Yogurt.

## Results in strengthening the Immune System



# Studies

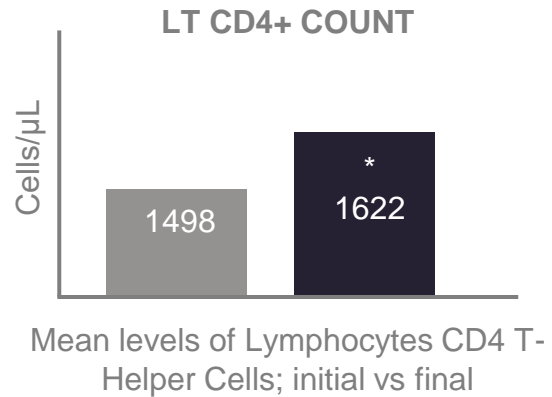
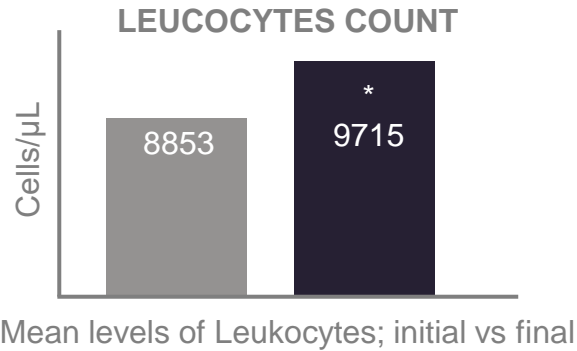
BENEFITS WITH  
SCIENTIFIC  
BACKGROUND

Milkshake nutritional supplement  
with Ganogen.

Clinical studies of the product in  
children and older adults (2014 - 2016)

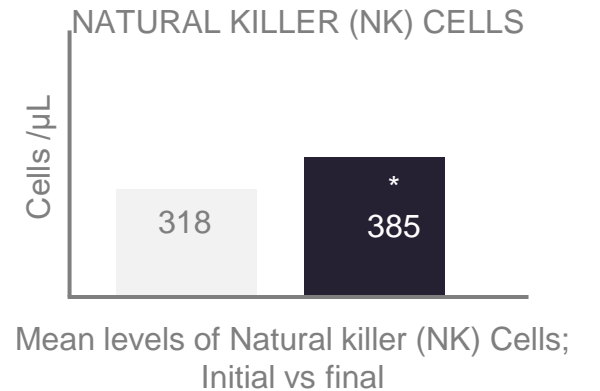
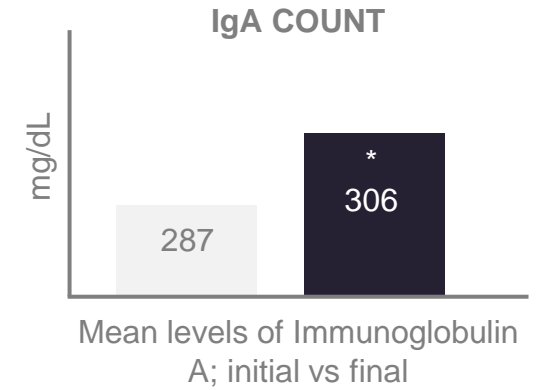
## CLINICAL STUDY IN CHILDREN

Leukocytes, lymphocytes T  
( CD4+, CD8)



## CLINICAL STUDY IN ADULTS

Immunoglobulin A (IgA),  
Natural killer (NK) Cells



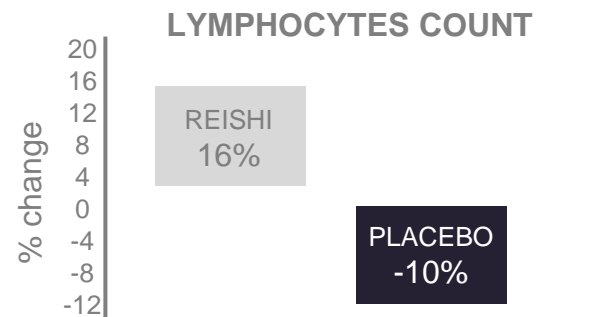
# Studies

BENEFITS WITH  
SCIENTIFIC  
BACKGROUND

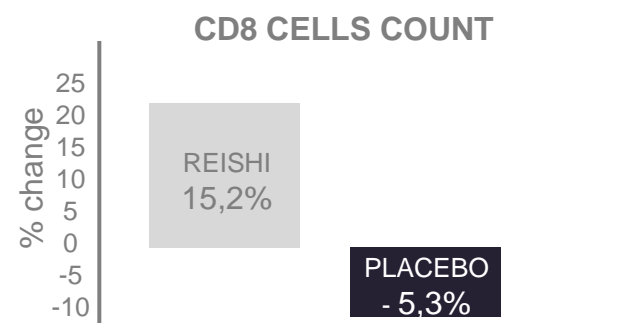
## CLINICAL STUDIES IN CHILDREN

Leukocytes, lymphocytes T  
( CD4+, CD8)

Nutritional supplement  
with Ganogen.

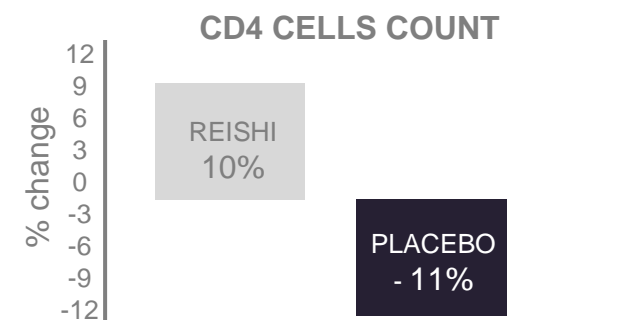


Comparison of % change in total Lymphocytes in both groups



Comparison of % change in the count of CD8 cells in both groups

Clinical studies of the product in  
children and older adults (2014 - 2016)



Comparison of % change in the count of CD4 cells in both groups



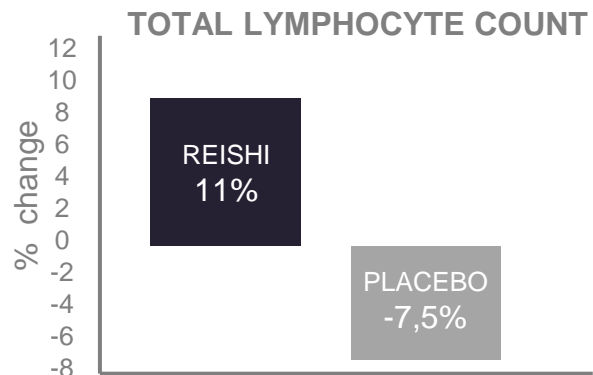
# Studies

BENEFITS WITH  
SCIENTIFIC  
BACKGROUND

## CLINICAL STUDIES IN CHILDREN

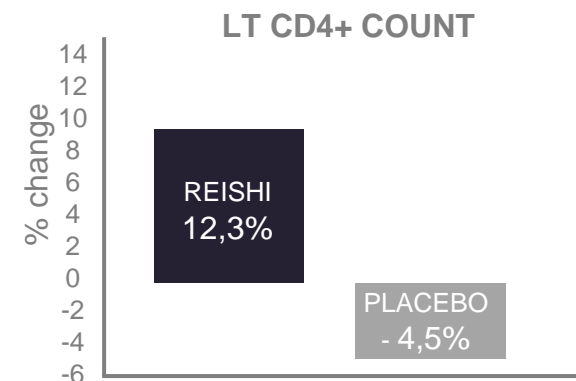
Leukocytes, lymphocytes T  
( CD4+, CD8)

### Yogurt supplement with Ganogen



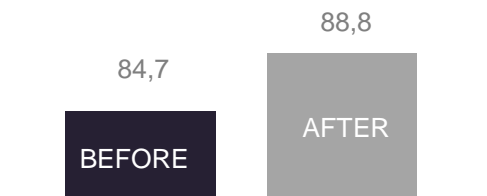
Comparison of % change in total Lymphocytes count in both groups

Clinical studies of the product in children and older adults (2014 - 2016)



Comparison of % change in the count of CD4 cells in both groups

### IMMUNOGLOBULIN A



Before and after comparison of IgA in the group that consumed Yogurt with Reishi



### Precision Fermentation Process To create a mushroom of higher functionality












## WHAT MAKES US DIFFERENT?

Aspect	Traditional Harvest Process	Precision Fermentation Process
<b>Cultivation Medium</b>	Grown on natural substrates like logs	Grown in a controlled liquid medium
<b>Time to Harvest</b>	Several months to a year	Days
<b>Yield</b>	Lower yield compared to fermentation	Higher potential yield
<b>Consistency</b>	Depends on environmental factors	More consistent under controlled conditions
<b>Contamination Risk</b>	Susceptible to contamination in open environment	Lower risk with controlled fermentation
<b>Space Requirements</b>	Larger space needed for log cultivation	Requires less physical space
<b>Quality Control</b>	Limited control over growing conditions	Precise control of fermentation parameters
<b>Nutrient Composition</b>	Natural variations in nutrient content	High concentration of specific metabolites such as B-glucans and ganoderic acids
<b>Environmental Impact</b>	Land use and resource-intensive	Potentially more sustainable with optimized resource use
<b>Harvesting</b>	Manual harvesting	Harvest in bioreactors



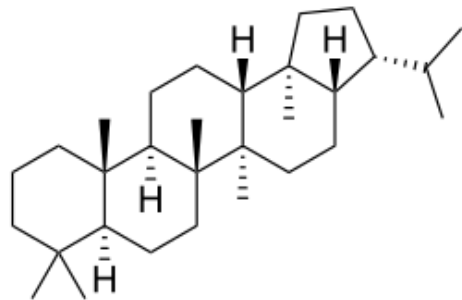
# Ganogen Reishi<sup>®</sup> vs other mushroom

			GANOGEN REISHI	OTHER MUSHROOM PRODUCTS
Specific Functionality		Benefits of ganoderic acids and β-glucans.	✓	✓
Non-GMO		Microorganism extracted from nature. Certified free of heavy metals and radiation-free.	✓	✗
Built for Bioavailability		Our ingredients are designed to optimize its absorption and availability to its intended biological destination.	✓	✗
Based by Clinical Studies		Clinical trials in elderly and children.	✓	✗
Suitable for Consumption		Good taste, great solubility and consistently stable to consume. Thermostable.	✓	✗
Standardized Consistent Dose		The benefits are consistent and do not vary from batch to batch. The properties are evenly distributed.	✓	✗
Solvent-free		Clean process. Free of pesticides and chemicals.	✓	✗
Specialty Food for the Mushroom's Growth		Our unique growing medium provides an optimal environment for the fungus to flourish.	✓	✗
Liquid Fermentation Process		Involves the cultivation of microorganisms within a liquid broth or medium, facilitating their growth and development.	✓	✗



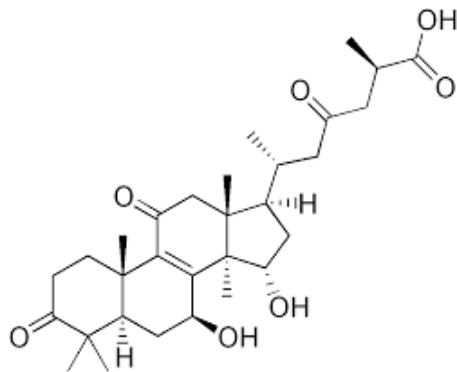
**Triterpenes**

- Measured in each production batch



**Ganoderic Acids**

- Qualitative and quantitative profile.
- ≥ 12 acids present.



**Glucans**

- Alpha and Beta Glucans.

**Type of β-glucans**

Bacterium

Fungus

Yeast

Cereal

**Structure**



# Ganogen Reishi<sup>®</sup> vs $\beta$ -glucans of yeasts

	Ganogen Reishi <sup>®</sup>	Yeasts
Ganoderic Acids	✓	
Alpha glucans	✓	
High concentration of glucans	✓	



# Ganogen Reishi<sup>®</sup> - Applications / Jobs

**SNACKS / CEREALS**  
**HYDRATING DRINKS**  
**PROTEIN SHAKES**  
**BAKERY**  
**ICE CREAMS**  
**SUPPLEMENTS**

**IMMUNITY**  
**COGNITIVE**  
**ANTIOXIDANT**  
**BEAUTY**  
**GUT HEALTH**



Tasteless



High Bioavailability



Thermostable



Organic & Vegan



High Solubility



N