

Dr. Jereško tejas

ANNO

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BETULIVER

first
month

Food supplement with birch bark extract – betulin
chicory root to enhance liver functions.
Co-produced with Latvian Institute of Wood Chemistry
Registered in PVS with registration no. 10817
Package of 60 capsules, Net weight 21.0 g
Content: One capsule contains 50 mg of birch bark
extract, with the main ingredient (40 mg)
and 200 mg chicory root powder.
Raw material: Birch bark dry extract is produced
Latvian State Institute of Wood Chemistry
Usage: It is recommended to take 1 capsule
before a meal.

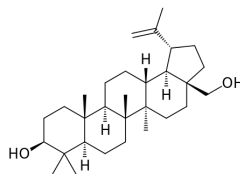
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registered and
patented nutritional
supplements in
European Union with
birch bark extract –
BETULIN

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BETULIN

Robert Carlson, a professor at the University of Minnesota, who has long studied the effects of betulin on the human body, has concluded: "There is one reason we look at betulin as a first-class product - it works. It works too well because it is synthesized in nature rather than in a laboratory. "

Betulin is a powder of white color, without significant taste, soluble in oil and fat, in alcohol, in ether and in other organic solvents, insoluble in water.



Betulin is obtained from the white part of birch bark. Its whiteness is made up of triterpene spirit bioflavonoids, which are named as betulin (the Latin name of the birch is Betula); it also contains the lupine, lupeol, betulin acetate, allobutulin, isobutyleneol, oleic acid, butyric acid in its dry extract.

In more than 30 clinical trials in foreign medical centers and hospitals, the direct regulating activity of the birch bark extract in fermentative and body defense systems is convincingly proven. Betulin affects the activity of enzymes, affects their synthesis and activity in cells, which is why the main properties of betulin are anti-inflammatory, anti-viral, antibacterial, antioxidant, anti-mutagenic activity, the ability to reduce cholesterol in the blood, improve liver and kidney function, as well as other activities that can be used to rehabilitate a person.

According to the international toxicological classification, betulin is classified in the fourth class - non-toxic substances. There have not been observed allergic, carcinogenic, skin irritant, cumulative, mutagenic, and sensitizing, embryotoxic properties of betulin.

However, when using betulin preparations, blood cholesterol should be controlled and monitored to keep below 4 mmol / l. Depending on this level, betulin treatment should be discontinued because cholesterol is vital for human health.

Betulin protects birch wood from bacterial, fungal, viral, and pest attacks. Birches never fall ill. Human molecular and atomic levels are similar to plants, and therefore those substances that protect plants from adverse environmental conditions can also protect humans.



Many studies have been based on the effectiveness of betulin in the following cases:

- Chronic inflammatory process in the body
- Prolonged use of medication (any), the use of many medicines at the **same time.**
- Fatty liver dystrophy, chronic and acute hepatitis A, B, C, gallstone disease.
- Oncological diseases as an accompanying therapy, together with cytostatic drugs, to reduce the side effects of chemotherapy, leukopenia, anemia, **toxic nephropathy and hepatocyte.**
- Frequent contact with toxic substances.
- Alcoholism, acute hangover syndrome, the need to quickly "clear up", drug **intoxication.**
- Lipid metabolism disorders, high cholesterol, obesity.
- Atherosclerosis, cardiovascular disorders, hypertonic disease, chronic **heart failure, memory impairment due to atherosclerosis, circulatory disorders in the legs.**
- Acute viral infections - influenza, herpes, cytomegalovirus and **Root Disease.**
- Immune system weakness with frequent cases of angina, pharyngitis, **bronchitis**
- In case of antibiotic resistance, the effectiveness of antibiotic beta-lactams **and macrolides is enhanced.**
- For skin regeneration - betulin stimulates collagen synthesis, improves **capillary circulation.**
- In the case of antibiotic resistance, the effectiveness of antibiotic **beta-lactams and macrolides is enhanced.**
- For the treatment of actinic keratosis.
- Herpes zoster, herpes labialis case.
- In the case of unresectable ulcers, wounds, burns.
- To extend the life expectancy of pets by adding doses of betulin to their **diet**
- For food preserving - antioxidant betulin action prevents food **deterioration and prolongs usefulness**



Antioxidant activity

Pathological processes in the body often start with the cell wall and cell organelles (mitochondria, lysosomes, and nucleus) membrane damage **caused by lipid peroxide oxidation.**

Betulin's structural hydroxyl C-28-OH binds to aggressive oxidant - atomic oxygen and stops lipid peroxide oxidation by protecting the cells from deep damage.

Antiviral activity

In 1994 it was discovered that betulin blocks virus from binding to the cell membrane, thus preventing the growth of the virus. Betulin also affects the **late phase of the virus replication, possibly the formation of a capsid, which** is the internal axis of the virus, which forms the virus's genome - two RNA molecules.

Due to the defect of the capsid, the virus's internal nucleocapsid deforms and the virus fails to evolve and loses virulence. Betulin thus interferes with spreading of the virus in the body.

More on the hypnotipemic study:

<http://www.sibran.ru/upload/iblock/5d3/5d3a67be75ab01f1f0aa002aee7f9164.pdf>

Hypolipidemic activity

Betulin has proved to lower lipid and cholesterol levels, but it does not block cholesterol synthesis, as in the case of statins. It reduces the body's need to produce high cholesterol.

Studies have shown that betulin lowers levels of lipoprotein in the bloodstream as effectively as those remedies in the statin group. Betulin reduces the formation of fatty liver cells (steatosis) and fat cells (obesity) and increases cellular insulin sensitivity in case of type 2 diabetes.

Compared to statins, betulin has no side effects, it acts as an effective hepatoprotector, and its prolonged use does not cause unwanted changes in the body. By using betulin, the level of transaminases decreases if it has been elevated.

More on the hypnotipemic study:

[http://www.cell.com/cell-metabolism/abstract/S1550-4131\(10\)00446-8](http://www.cell.com/cell-metabolism/abstract/S1550-4131(10)00446-8)

Hepatoprotective activity

Hepatoprotective activity of betulin has been studied using it as a non-toxic substance in the etiology of acute hepatitis resulting from poisoning with paracetamol, carbon tetrachloride, and ethanol. The mechanism of action of these substances is very different, but the common thing is that liver cell membrane is damaged in all cases; liver cell enzymes get into the blood (blood tests show elevated ASAT, ALT and LDH levels). Experiments have shown that drinking betulin 0.0006 - 0.024 mg / kg prior to alcohol consumption, observed less pronounced intoxication and hangover syndrome.

Betulin is an effective means of any etiology, acute and chronic toxic hepatitis, including viral hepatitis A, B, C the case, including cases where the disease is yellowing stage.

More about hepatitis treatment with betulin:

<https://www.ncbi.nlm.nih.gov/pubmed/16250596>

<http://www.samsmu.ru/files/referats/2015/ligostaeva/dissertation.pdf>

Using betulin 30 days at a dose equivalent to 10 mg per kilogram body weight prevents hepatocyte destruction, inflammatory infiltration, improved bile constituent and bile-release hepatic function, citahroma P - 450 activities is improved, thus, the liver may neutralize and conjugate harmful substances. On average, after the month of betulin use ALT levels are reduced by 82%, alkaline phosphatase level is reduced by 69%, level of triglycerides reduced by 62%. Of course, if the release of harmful substances into the body is prevented. By efficiency and diversity criteria, betulin activity exceeds all of the known hepatoprotective products in many aspects.

It is effective in the treatment of hepatitis and hepatic dystrophy obtained during treatment of oncological patients (chemotherapy, radiotherapy), as well as in hepatic damage resulting from injury, burns, and long-lasting anesthesia. The use of betulin in the treatment of hepatitis makes it possible to achieve faster recovery and rehabilitation, furthermore without causing harm to the body, even with long-term use of high betulin dosages.

Anti-inflammatory and immunomodulatory

Inflammation is a natural process, without which healing of injuries and damage can not occur. If the immune system is strong, then the inflammation is acute and temporary. In the case of weak immune system, inflammation is poorly defined, but occurs in a long-term chronic form and is associated with severe changes in the body, leading to dystrophy, atrophy, fibrosis and malignant tumors.

Betulin is a major stimulant of phagocytosis (a process whereby specific **leukocytes circulate and destroy bacteria, viruses and altered cells**) by activating microphages and macrophages. The anti-inflammatory effect of betulin is particularly significant in inflammation exultation and proliferation phase, it converts low-going inflammation into acute when the agent is **completely destroyed and then accelerates recovery by stimulating the regeneration process.**

More about anti-inflammatory and immunomodulatory activity of betulin:

<https://www.ncbi.nlm.nih.gov/pubmed/24465925>

<http://www.ccsenet.org/journal/index.php/jps/article/viewFile/23226/16765>

<http://www.dissercat.com/content/kliniko-eksperimentalnaya-otsenka-protivovospalitelnykh-svoistv-betulina>

Anti-tumor activity

Tumor cells are able to grow under oxygen deficit conditions, rebuilding energy metabolism in such a way that tumor cells consume 20 times more **nutrients, mainly glucose, compared to normal cells.** The tumor cell membrane has many more channels through which nutrients enter; these channels can be addressed as "holes".

Betulin, as a pentacyclic triterpene alcohol molecule, binds to lipid fatty acids of the tumor cell membrane, preventing them from reorganizing and exposing them to apoptosis. In this way betulin behaves quite selectively on tumor cells. **Betulin does not cause change in whole cells, because there are not many receptors for betulin to join.** When betulin is used concurrently with chemotherapy and radiotherapy, the effect of toxic activity on whole cells is reduced; especially protected is liver, since betulin acts as a hepatoprotector and an antioxidant.

The triterpene and alpha-tocopherol antagonism effects play an important role in clarifying betulin anti-tumor and anti-viral activity. Researches show **increased amounts of alpha-tocopherol found localized in tumor cells,** providing them with high antioxidant protection (tocopherol oncotropium effect). It is interesting to note that for normal cells, if the membrane is damaged by oxidation overflow, betulin regenerates it - "patches" the hole, and by joining to the membrane of the mutated cell, betulin prevents its further development and causes a natural loss as it neutralizes the antioxidant defense of tocopherol.

More in the research: <https://ccj.springeropen.com/articles/10.1186/1752-153X-6-137>

downloads.hindawi.com/journals/bmri/2015/584189.pdf

<http://dx.doi.org/10.1155/2015/584189>

Use of nutritional supplements containing betulin

For middle-aged and elderly betulin is particularly needed in the restoration and maintenance of health. Usually, elderly people have a whole bunch of diseases: obesity, gastrointestinal diseases, atherosclerosis-related illnesses, liver ailments, gallstones and kidney stones, reduced immunity. In the case of these diseases, betulin can significantly improve the condition, even completely preventing the disease. To some extent, betulin can be termed as a panacea and active life extending substances both humans and animals.

Use of betulin in the food industry

There are interesting observations - if betulin is added to short-term foods (f.e., milk, meat products, mayonnaise, and vegetable oil) the storage life increases several times. Betulin preserves products by protecting them from oxidation.

Use of betulin in beauty and cosmetics

Betulin is very popular in the cosmetics industry. There are cosmetic products for anti-aging, anti-cellulite, sun-UV protection creams. Skin restoring creams with betulin stimulates synthesis of collagen under the skin.

Use of betulin-based linimentins

Betulin-based ointments are ideal for medical skin care for both humans and animals - injuries, long-lasting wounds and ulcers, eczema, psoriasis, allergic rash and pruritus.

More about betulin properties:

<http://www.samsmu.ru/files/referats/2015/ligostaeva/dissertation.pdf>

www.uran.ru/sites/default/files/NVM/Utkina_otchet.pdf





BETULIVER

Food supplement with birch bark extract betulin and chicory root is specially developed to improve liver function, for the purification and detoxification of the body, improvement of physical well-being.

Registered in FVS with registration no. 10817.

Package of 60 powder-filled capsules (270 mg). Net weight 16.2g

Content: 1 capsule consists of birch bark extract, where the main ingredient of 80 mg is betulin, 90 mg chicory root powder and capsule shell - gelatin.

Usage: It is recommended to take 1 capsule 2 times daily before a meal.

Recommended daily amount: 500 mg

Raw material: Birch bark dry extract is produced in co-operation with scientists of the Latvian State Institute of Wood Chemistry. Chicory root is purchased from organic farms. At the factory of farm "Doktus" herbs are dried, chopped and milled.

Betuliver is recommended for:

- People with liver dysfunction
- People with sedentary work and lack of physical activities
- People who eat, smoke and drink alcohol excessively



BETULCARD

Food supplement with hawthorn flower powder and birch bark extract - betulin specially developed to promote blood circulation and reduce swelling, for the purification and detoxification of the body, improvement of physical well-being.

Registered in FVS with registration no. 11004.

Package of 60 powder-filled capsules (260 mg). Net weight 15.6 g

Content: 1 capsule consists of birch bark extract, where the main ingredient of 80 mg is betulin, 80 mg hawthorn flower powder and capsule shell - gelatin.

Usage: It is recommended to take 1 capsule 2 times daily before a meal.

Recommended daily amount: 360 mg

Raw material: Birch bark dry extract is produced in co-operation with scientists of the Latvian State Institute of Wood Chemistry. Hawthorn flowers are harvested in the farm Doctus hawthorn garden; dried and chopped at the farm's factory.

Betulcard is recommended:

- To middle-aged people and seniors to support cardiovascular system
- To people with sedentary work and lack of physical activities
- To people who eat, smoke and drink alcohol excessively
- To increase kidney function



BETULGASTRO

Food supplement with dandelion root powder and birch bark extract – betulin specially developed for the support of stomach and liver functions, for the purification and detoxification of the body, improvement of physical well-being. Promotes normal

functioning of the stomach and liver, as well as contribute to the body's defense against free radical damage.

Registered in FVS with registration no. 11002.

Package of 60 powder-filled capsules (270 mg). Net weight 16.2 g.

Content: 1 capsule consists of birch bark extract, where the main ingredient 80 mg is betulin, 90 mg dandelion root powder and capsule shell - gelatin.

Usage: It is recommended to take 1 capsule 2 times daily before a meal.

Recommended daily amount: 380 mg

Raw material: Birch bark dry extract is produced in co-operation with scientists of the Latvian State Institute of Wood Chemistry. Dandelion roots are grown in the property of farm Doktus and at it's factory they are sorted, cleaned, chopped, dried and milled.

Betulgastro is recommended:

- To promote normal functioning of stomach and liver
- To people who live in ecologically unfavorable environment
- To people with sedentary work and lack of physical activities
- To people who eat, smoke and drink alcohol excessively



BETULFLU

Food supplement with Icelandic moss powder and birch bark extract – betulin specially developed with beneficial effect on respiratory tract, enhances expectoration, for the purification and detoxification of the body, improvement of physical well-being.

Registered in FVS with registration no. 11003.

Package of 60 powder-filled capsules (260 mg). Net weight 15.6g.

Content: 1 capsule consists of birch bark extract, where the main ingredient 80 mg is betulin, 80 mg Icelandic moss powder and capsule shell - gelatin.

Usage: It is recommended to take 1 capsule 2 times daily before a meal.

Recommended daily amount: 360 mg

Raw material: Birch bark dry extract is produced in co-operation with scientists of the Latvian State Institute of Wood Chemistry. The Icelandic moss is collected by the farm employees in the Latvian pine forests. Icelandic moss is not a protected plant, it grows in sufficient quantity. At the farm "Doktus" factory moss is sorted, cleaned, chopped and milled.

Betulflu is recommended:

- For respiratory health; to enhance expectoration
- To strengthen the body's defenses
- To people with sedentary work and lack of physical activities
- To people who eat, smoke and drink alcohol excessively



BETULURO

Food supplement with meadowsweet flower powder and birch bark extract – betulin specially developed to have positive effect on the urinary tract, for the purification and detoxification of the body, improvement of physical well-being.

Promotes normal functioning of the stomach and liver, as well as contribute to the **body's defense against free radical damage.**

Registered in FVS with registration no. 11002.

Package of 60 powder-filled capsules (260 mg). Net weight 15.6 g.

Content: 1 capsule consists of birch bark extract where the main ingredient 80 mg is betulin, 80 mg meadowsweet flower powder and capsule shell - gelatin.

Usage: It is recommended to take 1 capsule 2 times daily before a meal.

Recommended daily amount: 380 mg

Raw material: Birch bark dry extract is produced in co-operation with scientists of the Latvian State Institute of Wood Chemistry. Meadowsweet flowers are collected in the farmland meadows; at the Doktus factory they are dried, chopped, milled and prepared.

Betulflu is recommended:

- **Beneficial effect on urinary tract**
- **To help discharge of excess fluid**
- **To people with sedentary work and lack of physical activities**
- **To people who eat, smoke and drink alcohol excessively**

Before use, read the package instruction or consult your doctor or pharmacist.

Do not exceed the recommended daily dose.

Keep out of the reach of children.

Do not use during pregnancy, breast-feeding and children under the stated age

Do not use nutritional supplements to replace a healthy and balanced diet.



The manufacturer of food-supplements with birch bark extract - betulin:

Farm "Doktus", food company reg. no. 010311, Latvia in cooperation with the Latvian State Institute of Wood Chemistry offers wholesale birch extract with 99% betulin content.

Profile of the company:

- Cultivation and processing of the medicinal herbs
- Production of herbal teas, extraction oils, skin care products and nutritional supplements.

Company address: ZS Doktus, Pāvila 23, Cēsis, LV-4101, Latvia



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