



PRODUCT DOCUMENTATION

DRAGS IMUN

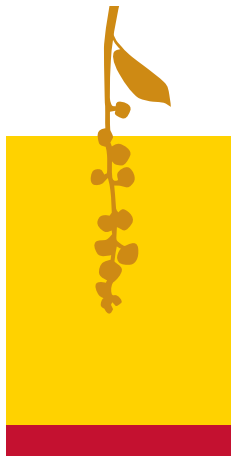


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Text of the leaflet

Drags Imun

Bioinformation product containing pure sap from the Croton lechleri tree, also called Sangre de Drago (“Dragon’s blood”).

Meridians

Drags Imun influences in particular the meridians of the spleen, stomach, three burners, and small and large intestine.

Effects:

Drags Imun has generally potent and scientifically evidenced antibacterial, antiviral, antimycotic and antioxidative effects. It is a product intended both for internal and external use. The thick latex sap from Croton lechleri has its firm place in traditional Latin American medicine and currently is subject to intensive scientific research. The sap contains a large amount of antioxidants (proanthocyanidins) as well as the alkaloid taspine, tannin and other substances responsible for its exceptional anti-inflammatory, healing and anti-tumour effects.

Usage:

Due to its potent and scientifically evidenced antibacterial, antiviral, antimycotic and antioxidative effects this unique natural substance helps combat respiratory diseases caused by influenza A and B viruses, adenoviruses, retroviruses, and parainfluenza viruses. It alleviates fever and has

positive effects on hepatitis A and B, it acts well also in the healing of herpes and infectious mononucleosis caused by herpes viruses (types HSV, EBV, CMV). It stops bleeding (haemostatic properties), and is hence suitable for the treatment of any surface wounds and skin defects (from minor injuries to venous ulcers); it has constrictive (astringent) effects; it alleviates discomfort caused by haemorrhoids. It exhibits epithelisation effects, hence accelerating the healing of wounds, skin and mucosa. It works well as a complement to the treatment of stomach ulcers and digestive problems caused by the *Helicobacter pylori* bacteria, and has positive anti-inflammatory effects in Crohn’s disease affecting the small intestine and in ulcerative colitis of the large intestine. It enhances the function of the spleen, pancreas, and thyroid gland and supports the immunity of the body. It detoxifies the intestines and it is suitable for diarrhoeal conditions (*E. coli*, *Enterobacter*, *Salmonella*) and flatulence. It cleans the blood, activates bone marrow and positively influences blood cell regeneration in anaemic and leukemic conditions. It improves the quality of bones and joint cartilages. It may be used for paradentosis, bleeding gums, increased formation of caries and after tooth extractions. It protects the CNS and acts positively during multiple sclerosis and Parkinson’s disease. Its anti-stress, aphrodisiac and toning effects are outstanding; it supplies energy during fatigue and exhaustion. It has cytostatic effects.

Composition:

100% natural sap from Croton lechleri.

No preservatives added.

Dietary supplements are not intended to substitute varied diet.

Store at 10–25°C in a dry place; do not freeze.

Dosage:

Drags Imun is a product intended for both internal and external use.

For internal use – max. 10 drops 1–3 times per day in a glass of water taken after meals.

As a gargle – put 3-5 drops in a glass of water. Apply on toothbrush for inflammations and bleeding of the gums.

Acute problems – 9 drops three times per day.

Chronic problems – 3 drops three times per day.

Do not exceed the recommended daily dose.

After three weeks of usage the product should be discontinued for one week. To support detoxification of the body it is necessary to increase the intake of liquids!

For external use – apply directly on the wounded site.

Gently shake before use; potential sediment is not a product defect.

Warning!

Drags Imun should not be used together with drugs suppressing the immune response (immunosuppressants). Not suitable for children, pregnant and breastfeeding women.

Store out of reach of children!

Introduction to the topic

The broad application of the dark red sap called Dragon's blood (Sangre de Drago, Drachenblut) has its irreplaceable role in natural medicine practically all over the world. Sap from the *Dracaena draco* ("dragon tree") from the Canary Islands, from the South-Asian *Daemonorops draco* ("dragon-blood palm") and from the fruit-bearing West-India tree *Pterocarpus draco* ("Hülsenfrüchtlerbaum") is used. All of these trees, including the Central- and South-American *Croton lechleri* tree, whose sap is used for Drags Imun, exude their milky sap (latex) once their bark is scratched or cut.

Products based on the sap from the *Croton spp.* tree have been authorised for marketing and use as dietary supplements in a number of countries of Central and South Americas, in the U.S., in Russia and in Europe. For centuries this sap has been used in folk medicine in various ways. It is applied orally, rectally, vaginally as well as externally and it is used to affect a very broad scope of diseases, for example to stop bleeding, to accelerate the healing and closing of wounds and to protect them from infections. The sap dries very quickly and creates a secondary protective layer. In native medicine it is applied for dysentery, intestinal fever, stomach ulcers, haemorrhoids, but also for vaginal baths before delivery and to stop bleeding after delivery, for skin problems as well as itching caused by insect bites.

Drags Imun is a broad-spectrum product which due

to its potent **antibacterial, antiviral, antimycotic, antioxidative and haemostatic properties** may be used for the healing of wounds, tissues and skin, aphthae, ulcerations and inflammatory conditions, particularly in the buccal cavity, pharynx and larynx as well as elsewhere. It has also outstanding anti-stress, aphrodisiac and toning effects. It supports and enhances regeneration and immunity of the body, and has highly positive effects when combating respiratory, flu, and fever conditions. It has been also shown to have positive effects on intestinal conditions like Crohn's disease and ulcerative colitis.

These two diseases are autoimmune disorders characterised by inflammations in the digestive tract. In the case of Crohn's disease, the inflammations may attack the entire gastrointestinal tract, most often, however, the most distal part of the small intestine (terminal ileum) is affected. In the case of ulcerative colitis the inflammation affects a less or more extensive part of the colon. Drags Imun significantly helps to alleviate the condition and to reduce the activity of inflammations, thus helping to prevent surgeries associated with these two diseases.

An organ important for the immunity is thymus. Significant are also bone marrow, spleen and intestinal mucosa. If the organism is weakened, many a serious disease, including autoimmune diseases, may develop. For its immunomodulating effects, Drags Imun is suitable as a support for the

immunity of the body. It is, however, important to bear in mind that Drags Imun should not be used together with drugs suppressing the immune response (immunosuppressants).

CROTON SPP.

Particular species of the Croton spp. tree offer dark red foamy sap whose foaming quality is caused by the presence of saponins. Europe saw Dragon's blood for the first time around 1600, when it was introduced by Father Barnabé Cobo, a Spanish Jesuit, chronicler, and natural scientist who emphasised its use particularly by the native tribes of Mexico, Columbia, Ecuador and Peru. The trees producing this sap had to wait for their botanic classification for almost a quarter of a millennium – until 1866.

The most often quoted species is Croton lechleri Muell. Arg., a typical representative and producer of the ruby-coloured latex. It should be, however, noted that it has very close relatives. Similar native medical applications have been described for all of these species.

Croton lechleri is a tree whose home is the rainforest of Central and South America and which belongs to the Euphorbiaceae family. It grows up to 10–20 metres and despite its substantial height its trunk usually does not exceed 30cm in diameter. Phytotherapy uses its bark, leaves, branches and most often the resin – sap. The sap of the tree is obtained before sunrise,

because after sunrise the yield is smaller. Fresh sap is obtained from trees which are 10–20 years old. It is possible to obtain as much as 2.8 litres of latex from a single tree at one go. The pH of fresh sap is 4.3 and it is mixed with water or ethanol for preservation.

Major applications of the sap may be classified as follows:

1. Stopping bleeding, healing of wounds, burns and new scars, application after tooth extraction and in parodontosis.
2. Elimination and disinfection of small ulcerations, aphthae, sores caused by herpes viruses (external application).
3. Combating skin mycoses and rashes.
4. Alleviating reactions to insect bites, calming down allergic skin reactions.
5. Effects in inflammatory stomach and intestinal conditions and diarrhoeal diseases.

The pharmacological properties of latex and its components have also been scientifically evidenced. Their list is extensive, but it indicates that Dragon's blood, or Drags Imun, should be always handy for everyone as a "first aid" product.

Pharmacological effects of sap: anaesthetic, anti-allergic, antibacterial, antiviral, antioxidative, antiseptic, haemostatic, healing, immunomodulating, anti-tumour, antimycotic, anti-diarrhoeal, anti-inflammatory.

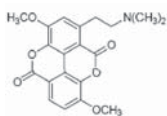
Active substances present in the sap

The sap obtained from *Croton* spp. is soluble in water and contains a number of secondary metabolites (over 90% of dry mass). Typical secondary metabolites are proanthocyanidins and other polyphenolic components, such as catechin, epicatechin, gallocatechin, epigallocatechin and procyanidin dimmers B-1 and B-4. Furthermore, minority components have been identified: diterpenoids (corberine A, corberine B, bincatriol, etc.) and dihydrobenzofuran lignan 3',4-O-dimethylcedrusin. The sap also contains alkaloids – taspine and other alkaloids exhibiting anti-tumour activity – pyridon, indole, morphine and others. Sangre de Drago is, due to its effects, one of the most closely examined plant substances of South America. Since the 1960s, research into Dragon's blood has been carried out worldwide. The properties of Dragon's blood have been confirmed by a number of studies. In 1977, the ability of taspine to inhibit the RNA – DNA polymerase in myeloblastosis virus, Rauscher's leukaemia virus and Simian sarcoma virus was documented. Its anti-inflammatory effect was for the first time documented in 1979 by G.P. Perdue's group. In the coming years, the effects on accelerating tissue healing as well as anti-tumour properties of taspine were confirmed. An important paper in anti-tumour, antibacterial and healing properties of Sangre de Drago was drawn by Z. P. Chen, Y. Cai and J. D. Phillipson, who in 1994 published a study suggesting that substances isolated from the sap as well as numerous other substances obtained from the sap had potent bacteriostatic

effects. These were almost 30 times as potent as those of chloramphenicol or V-penicillin. Research has also shown the important role of the lignan dimethylcedrusin in the healing of wounds and scars. Nevertheless, the action of taspine, dimethylcedrusin and other substances present in the latex exhibit higher efficacy of the activity than the effects of separate, isolated components. Belgian scientists have also detected the antiviral activity of taspine and dimethylcedrusin working against herpes viruses. In 1994, other phyto-chemical components were identified, including phenols, proanthocyanidins and diterpenes, which have shown certain antibacterial activity. In terms of the immunomodulating activity, the *Croton lechleri* sap exhibits a substantial ability to influence phagocytosis as well as other immune reactions of the body.

TASPINE

Chemically, taspine is a fenanthrene close to the aporphine type. Taspine activates the early stages of wound healing and has the ability to inhibit the activity of reverse transcriptase of retroviruses. In the healing and anti-inflammatory effects of the sap, taspine has the most prominent role of all present substances. It also exhibits cytotoxic effects on tumour cell lines, thus having potential anti-carcinogenic effects.



taspine

PROANTHOCYANIDINS

Proanthocyanidins are oligomer flavonoids, which represent one of the most common groups of plant polyphenols. The significance of polyphenols is often associated with reduced incidence of severe diseases, such as cancer and cardiovascular diseases, diabetes and other conditions. Some studies even suggest that the intake of food containing certain polyphenols may protect the organism from some forms of tumours (mostly lung and gastrointestinal cancer, breast cancer in women and prostate cancer in men). The mechanism of the protective effects of plant polyphenols is based on their ability to extinguish reactive oxygen radicals (antioxidative effect). Natural polyphenols have a number of beneficial pharmacological properties:

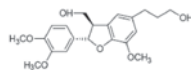
- Potent in vitro antiviral effect (against influenza and parainfluenza viruses, respiratory viruses and HIV virus, etc.)
- Potent antioxidative effect and antibacterial effect
- Stimulation of hair follicle growth, hair quality regeneration and improvement
- Anti-inflammatory effect
- Pronounced antidiarrhoeal effect (a mixture of the proanthocyanidin polymer authorised in the U.S. as SP-303 has shown a very strong effect also in the inhibition of intestinal excretion of fluids caused by the cholera toxin)
- Prevention of atherosclerosis, diabetes, cancer and osteoporosis (the properties of monomer and

oligomer polyphenols)

- Hypotensive and hypothermal effects
- Prevention and alleviation of urogenital infections
- Pronounced astringent (constrictive) qualities

DIMETHYLCEDRUSIN

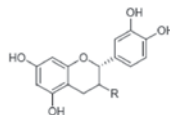
3',4-O-dimethylcedrusin is a dihydrobenzofuran lignan whose properties potentially enhance wound healing. Lignans are polyphenolic substances. Some studies suggest that this lignan may be the most active component of the Croton spp. sap. The sap contains also other lignans, yet these have not been shown to be active in biological tests. Belgian scientists have also identified the antiviral activity of dimethylcedrusin and taspine which works against the herpes viruses.



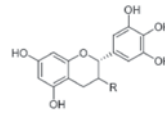
3',4-O-dimethylcedrusin

CATECHINS

Catechins are involved in the therapeutic effects of the Croton spp. sap. (+) Catechins have regenerative effects, particularly on the liver tissue damaged by toxins or infections. (-) Epicatechin has anti-inflammatory and hypoglycaemic effects.



R= OH epicatechin
R= OH catechin



R= OH epigallocatechin
R= OH gallicocatechin

General evaluation

- **Pronounced antibiotic effects, inhibition of gram positive bacteriae and dermatophytic mycoses.**
- **Effective against viruses:**
 - > **influenza viruses (A, B), adenoviruses and parainfluenza viruses (PIV)**
 - > **Herpes viruses (HSV, EBV, CMV)**
 - > **Viruses of hepatitis A and B**
- **Stops bleeding (haemostatic properties)** – it is therefore suitable for treating any surface wound.
- **Anti-inflammatory, healing and astringent properties** (accelerated healing of skin injuries and mucosa defects in the buccal cavity, larynx, pharynx and elsewhere), incl. effects helping to combat gastroenterological conditions:
 - > **Stomach and duodenal ulcers (caused by *Helicobacter pylori*)**
 - > **Crohn's disease and ulcerative colitis**
 - > **Haemorrhoids (external as well as internal application)**
- **Major anti-diarrhoeal effects** (effective also in the case of traveller's diarrhoea and diarrhoeal attacks in AIDS patients).
- **Activates bone marrow, positively influences the regeneration of blood components in anaemic and leukemic conditions.**
- **Prevention of cardiovascular diseases and "civilisation" degenerative conditions.**
- **For its cytostatic effects**, it also acts as support in **oncologic** conditions. Due to its potent antiviral effect it is suitable as adjunct to therapy of **HIV-positive individuals** and to eliminate potentially carcinogenic viruses. Medical supervision is necessary in both cases.
- **In dentistry**, it may be used for **paradentosis, bleeding gums, increased development of caries, and following tooth extraction (astringent effects).**
- It has also pronounced **anti-stress, aphrodisiac and toning effects. It regenerates the body and enhances its immune response.**
- Its **antioxidative activity** protects the entire organism, including skin cells, from damage by UV radiation. Internally it helps to **combat increased formation of bruises.**

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