



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

What is Karden?



Karden (NPN 80082110) is a natural health product that offers cardiovascular protection in the present and long term. Its effects are not immediate nor radical, but slow and long lasting. Karden, with its main component Crataegusmonogyna 2,2% flavonoid extract (hyperoside and vitexin), is unanimously recognized for its beneficial effects on the heart and circulation in general. As a vasodilator, it acts on the coronary artery, which makes it

possible to increase the blood supply to the heart muscle thus enhancing oxygenation, nutrition and its activity. Karden has a diuretic effect. It eliminates water retention and thus lowers hypertension. High blood pressure cannot be cured but it can be controlled which means that the treatments, in this case, should bring the numbers back to a normal level of 130/80 or below.

Karden increases the strength of the myocardium, protects the heart, regulates the heart rate and protects the heart muscle cells from possible damage. It also reduces nervousness and anxiety.

Attention: the diagnosis and treatment of heart disorders requires intervention of a health professional because of the potential risks caused by these diseases. Heart problems often require the administration of multiple medications whose multiple interactions may require close medical follow-up. BP (Arterial Blood Pressure) may vary daily from one moment to the next, and medication changes should be monitored. The use of the MAPA test will be of real benefit for BP surveillance in hypertensive patients

What is the advantage of Karden and why did we formulate it?

The treatment of hypertension may include several drugs: "A single pharmacological principle allows the control of only 25% of hypertensives



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

treated," says the French Committee for the Fight against HyperTension in a guide addressed to professionals; in the same publication it is specified that for 50% of patients it is necessary for "the use of three pharmacological classes in combination to achieve the blood pressure goal".

Why a natural product for HTA

Each year, 1% to 3% of hypertensive patients receiving drug therapy develop diabetes. The risk is higher for those with at least one of the following: treatment with a diuretic or a beta blocker, glucose intolerance (fasting or not), obesity (especially abdominal), dyslipidemia, sedentary lifestyle and poor diet. 50% of hypertensives under 45 do not take antihypertensives, even if they have multiple cardiovascular risk factors.

This is why self-measurement techniques (outside the presence of a doctor), are very useful and indispensable in defining which patients should be treated. "

Karden contains two active ingredients: crataegusmonogyna extract and magnesium and a hibiscus sabdarifa flavor enhancer that has been the focus of much research for heart disease, especially for HA.

Most clinical trials for crataegusmonogyna were performed on 2 standardized 18.75% procyanidin extracts, and 2.2% flavonoids. This is why we used flavonoid extract for our formulation.

Over the past 20 years, several clinical studies have been conducted with more than 1,000 patients with heart failure. They demonstrated that standardized leaf and flower extracts of Crataegusmonogyna are an effective adjunctive therapy for Class I and II congestive heart failure according to the New York Heart Association classification.

The history of use and clinical data undeniably demonstrate the safety of hawthorn and its effectiveness in improving exercise tolerance. On the other hand, in the advanced stages (III to IV according to the New York Heart Association scale) the use of hawthorn is not advantageous compared to the medication and its effectiveness is in doubt.



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

Thus, for the elderly person with mild heart failure who is followed by a doctor, the use of hawthorn extract is an ideal way to choose the best of both worlds: treat the disease while avoiding the adverse effect reactions and interactions with other drugs. If, throughout the years, the insufficiency gets worse, it will be time to replace the hawthorn extract with a more powerful medicine. But, as long as the insufficiency is light, why not take advantage of a botanical extract that is quite safe? "Jean-Yves Dionne, BScPharm May 2011

How to maximize the therapeutic effects of Karden?

There are two ways to control and manage the health of your heart: drugs and lifestyle.

Medications can help control heart disease and high blood pressure, but they cannot cure them.

A healthy lifestyle can help limit medication use to a minimum. Adopting a healthy lifestyle can reduce the risk of developing high blood pressure and heart disease; this includes regular physical activity, maintaining a healthy weight, stress management, limited alcohol consumption and a healthy diet low in sodium, fat and sugars and high in fruits and vegetables.

What are the main effects in taking the product Karden?

The components of Karden include: Crataegus monogyna 2.2% flavonoid extract, magnesium citrate and hibiscus sabdariffa.

The Cochrane Database of Systematic Review published the results of an analysis of ten trials in 855 patients with heart failure. Patients participating in the clinical trials suffered from Class I-III congestive heart failure.

According to the results, the extract would improve the capacity to the effort (maximum power supported) as well as the tolerance to the exercise (endurance).

The extract decreased blood pressure and heart rate and improved the heart's oxygen consumption index for treated patients.

Symptoms of shortness of breath and excessive fatigue had been diminished.



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

Why and when to take Karden?

Karden can be used to treat mild to moderate congestive heart failure (New York Heart Association Class I and II) and reduce anxiety. Taking Karden as a supplement to conventional medical treatment - diuretics or angiotensin converting enzyme (ACEI) inhibitors - improves exercise resistance and relieves some of the symptoms associated with this condition: high blood pressure, abnormal breathlessness at the least effort and fatigability. Karden can be used alone (as a monotherapy) in the TA grade I-II and always with a self-monitoring of the TA as for all therapies of arterial hypertension.

Regarding the main component of Karden, the standardized extract of *Crataegus Monogyna* some experts believe that this is an interesting solution to treat the first 2 stages of congestive heart failure, especially in cases where the patient cannot tolerate the symptoms of synthetic drugs due to certain side effects such as: dry cough, drug allergy, kidney failure.

Can I take Karden even if my stomach is fragile?

According to current studies, no negative side effects have been reported, however due to its slightly acidic nature we recommend administration of Karden with foods.

Are there situations where I should to avoid taking Karden?

No, except in the case of an allergic reaction to one of the components.

What are the interactions with other products / medicines?

A large trial (2,600 subjects followed for 2 years) confirmed that hawthorn extract is safe and does not interfere with conventional medical treatments.

Hypothetically speaking, taking into account its mechanism, the effects of hawthorn could be added to those of digitalis and other plants having an effect on cardiac function.

Standard extracts of hawthorn interact safely with other drugs listed below, under the strict condition of medical supervision.

Digoxin and other digitalis derivatives. In a cross-sectional trial of 8 healthy subjects, digoxin alone was administered for 10 days and then, for the following



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

21 days, hawthorn extract was added to this treatment. It has been found that hawthorn extract does not influence the metabolism of digoxin.

Recommended dosage of the product Karden?

It is recommended to take 2 capsules 3 times a day, if possible with food.

Precautionary use of Karden product

Although studies have not shown any toxic effects, we do not recommend administering the product for pregnant or breastfeeding women, as well as for children under one year of age to avoid choking.

Explanation of active components and bibliography

The other active components of Karden.

Magnesium is another component of Karden

Magnesium is a natural calcium antagonist with the main action of vasomotor tone regulator, blood pressure and peripheral blood circulation. Its actions as an antihypertensive, anti-dysrhythmic, anti-inflammatory and anticoagulant agent make magnesium a beneficial element in the prevention and treatment of cardiovascular diseases.

A systematic review of prospective studies on 313,041 individuals from 11,995 cardiovascular and 1,020 ischemic diseases concluded that higher levels of blood magnesium were associated with a lower risk of cardiovascular disease, and higher dietary magnesium intakes. (up to about 250 mg / day) have been associated with a significantly lower risk of ischemic heart disease. An increase of 0.2 mmol / L in serum magnesium was associated with a 30% lower risk of cardiovascular disease.

Magnesium supplementation can produce a favorable effect on glucose levels, HDL-cholesterol, LDL-cholesterol, TG and blood pressure. Magnesium supplementation may lower the risk of diabetes and its impact on cardiovascular disease. In another clinical trial supplementation with magnesium 8-26 weeks 243 - 973 mg / day for 545 hypertensive participants shows a decrease of 2.2 mmHg for diastolic pressure. A meta analysis of 1173 normal and hypertensive adults concluded that a 3-24 week supplementation decreases systolic pressure by 3-4 mmHg and diastolic pressure by 2-3 mmHg.



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

Hibiscus sabdarifa contains anthocyanins a subgroup of the family of flavonoids recognized for their beneficial effects on cardiovascular health. It is effective in the inhibition of the inflammatory process and on the production of NO, free radical uptake, inhibition of xanthine oxidase and chelation of metal ions. Improved oxidation of LDL-c. was demonstrated as one of the beneficial effects of anthocyanins in the quality of life of patients with CVD'S.

Hibiscus sabdarifa has been used as a flavor enhancer, even though it is not part of active ingredients in our formulation, it represents added value for product grade. Hibiscus has antioxidant, antihypertensive, diuretic and uricosuric properties (increases the excretion of uric acid in the urine). Recent studies suggest that hibiscus may be effective against metabolic syndrome, particularly for lowering blood sugar, triglycerides, and total cholesterol. It has also been shown in studies that hibiscus is effective in lowering blood pressure in pre- and moderately hypertensive adults. The anthocyanins (red flavonoids found in the aqueous extract of this plant) are thought to be one of the main groups of compounds of this plant and could be the source of production of different bioactive compounds responsible for its antihypertensive properties.

Patients treated with hibiscus extract showed an increase in urinary sodium excretion without substantial change and without any adverse effects or loss of other urinary electrolytes, including potassium. In studies, hibiscus is as effective as the administration of spironolactone-type aldosterone antagonist diuretics used in some cases of hypertension.

Bibliography

Barnes Joan, Anderson A. Linda, Phillipson David J. *Herbal Medicines*, Pharmaceutical Press, Grande-Bretagne, 2007, troisième édition.
Blumenthal M, Goldberg A, Brinckmann J (Ed). *Expanded Commission E Monographs*, American Botanical Council, publié en collaboration avec



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

IntegrativeMedicine Communications, États-Unis, 2000.

Blumenthal M (Ed). *The ABC Clinical Guide to Herbs*, American Botanical Council, États-Unis, 2003.

Brown D, High Dose Hawthorn Extract for Advanced Congestive Heart Failure. *HerbalGram*.2003, numéro 57.American Botanical Council.

Drugs.com. Natural Products (Professional). *Hawthorn*. [Consulté le 3 mai 2011].
www.drugs.com

Ernst Edzard (Ed). *The Desktop Guide to Complementary and Alternative Medicine*, Mosby, Grande-Bretagne, 2001.

European Scientific Cooperative on Phytotherapy (Ed.).Crataegi Folium Cum Flore, *ESCOP Monographs on the Medicinal Uses of Plants Drugs*, Centre for Complementary Health Studies, Université d'Exeter, Grande-Bretagne, 1999.

National Library of Medicine (Ed). PubMed, *NCBI*. [Consulté le 3 mai 2011].
www.ncbi.nlm.nih.gov

Natural Standard (Ed). Foods, Herbs&Supplements - Hawthorn, *Nature MedicineQuality Standard*. [Consulté le 3 mai 2011]. www.naturalstandard.com

Organisation mondiale de la santé. *WHO monographs on selected medicinal plants*, vol. 2, Suisse, 2002.

Pizzorno JE Jr, Murray Michael T (Ed). *Textbook of Natural Medicine*, Churchill Livingstone, États-Unis, 1999.

Santé Canada.Médicaments et produits de santé. Base de données d'ingrédients de produits de santé naturels. Monographies à ingrédient unique. [Consulté le 3 mai 2011]. hc-sc.gc.ca

Schulz V, Hänsel R, Tyler VE. *Rational Phytotherapy - A Physicians' Guide to Herbal Medicine*, fourth edition, Springer, Allemagne, 2001.

The Natural Pharmacist (Ed).Natural Products Encyclopedia, Herbs & Supplements - Hawthorn, *ConsumerLab.com*. [Consulté le 3 mai 2011].
www.consumerlab.com



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

Weiss RF, Fintelmann V. *Herbal Medicine*. Second edition. Thieme, États-Unis, 2000.

Hawthorn extract for treating chronic heart failure. Pittler MH, Guo R, Ernst E. *Cochrane Database Syst Rev*. 2008 Jan 23;(1):CD005312. Review.

The effect of Crataegusoxycantha Special Extract WS 1442 on clinical progression in patients with mild to moderate symptoms of heart failure. Zick SM, Gillespie B, Aaronson KD. *Eur J Heart Fail*. 2008 Jun;10(6):587-93. Texte intégral : eurjhf.oxfordjournals.org

Hawthorn Extract Randomized Blinded Chronic Heart Failure (HERB CHF) trial. Zick SM, Vautaw BM, et al. *Eur J Heart Fail*. 2009 Oct;11(10):990-9.

The efficacy and safety of Crataegus extract WS(R) 1442 in patients with heart failure: The SPICE trial. Holubarsch CJ, Colucci WS, et al; on behalf of the Survival and Prognosis: Investigation of Crataegus Extract WS® 1442 in CHF (SPICE) trial study group. *Eur J Heart Fail*. 2008 Dec;10(12):1255-63. 5. Habs M. Prospective, comparative cohort studies and their contribution to the benefit assessments of therapeutic options: heart failure treatment with and without Hawthorn special extract WS 1442. *ForschKomplementarmedKlassNaturheilkd*. 2004 Aug;11Suppl 1:36-9.

Tauchert M, Gildor A, Lipinski J. [High-dose Crataegus extract WS 1442 in the treatment of NYHA stage II heart failure] *Herz*. 1999 Oct;24(6):465-74; discussion 475. German. Erratum in: *Herz* 1999 Nov;24(7):586.

Schmidt U, Albrecht M, et al. High-dose *Crataegus* therapy in patients suffering from heart failure NYHA class I and II. *Z Phytotherapie* 1998;19:22-30. Étude citée et résumée dans : Blumenthal M (Ed). *The ABC Clinical Guide to Herbs*, American Botanical Council, États-Unis 2003, p. 244.

Loew D, Albrecht M, Podzuweit H. Efficacy and tolerability of a Hawthorn preparation in patients with heart failure stage I and II according to NYHA – a surveillance study. *Phytomedicine*. 1996;3(Suppl. 1):92. Étude citée et résumée



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

dans : Blumenthal M (Ed). *The ABC Clinical Guide to Herbs*, American Botanical Council, États-Unis 2003, p. 244.

Ernst Edzard (Ed). *The Desktop Guide to Complementary and Alternative Medicine*, Mosby, Grande-Bretagne, 2001.

Hanack T, Bruckel MH. 1983. The treatment of mild stable forms of angina pectoris using *Crataegutt novo*. *Therapiewoche* 33:4331–4333. Étude mentionnée et résumée dans : Weiss RF, Fintelmann V. *HerbalMedicine*. Second edition. Thieme, États-Unis, 2000.

Weng WL, Zhang WQ, *et al*. Therapeutic effect of *Crataeguspinnatifida* on 46 cases of angina pectoris--a double blind study. *J Tradit Chin Med* 1984;4(4):293-294. Étude citée et résumée dans : Natural Standard (Ed). *Foods, Herbs&Supplements - Hawthorn, Nature MedicineQuality Standard*. [Consulté le 3 mai 2011]. www.naturalstandard.com

Schmidt U, Albrecht M, Schmidt S. Effects of an herbal crataegus-camphor combination on the symptoms of cardiovascular diseases. *Arzneimittelforschung* 2000;50(7):613-619.

Ventura P, Girola M, Lattuada V. [Clinical evaluation and tolerability of a drug with garlic and hawthorn]. *Acta ToxicolTher* 1990;11(4):365-372. Étude citée et résumée dans : Natural Standard (Ed). *Herbs & Supplements - Hawthorn, Nature Medicine Quality Standard*. [Consulté le 3 mai 2008]. www.naturalstandard.com

Hanus M, Lafon J, Mathieu M. Double-blind, randomised, placebo-controlled study to evaluate the efficacy and safety of a fixed combination containing two plant extracts (*Crataegusoxycantha* and *Eschscholtziacalifornica*) and magnesium in mild-to-moderate anxiety disorders. *Curr Med Res Opin*. 2004 Jan;20(1):63-71.

Daniele C, Mazzanti G, *et al*. Adverse-event profile of *Crataegus* spp.: a systematic review. *Drug Saf*. 2006;29(6):523-35.



Phone: (450) 619-1414
Email: info@enbiomedical.com
Website: enbiomedical.com
50, Boul. Taschereau, Suite 125
La Prairie, Quebec. J5R 4V3

Tankanow R, Tamer HR, *et al.* Interaction study between digoxin and a preparation of hawthorn (Crataegusoxycantha). *J ClinPharmacol.* 2003 Jun;43(6):637-42.

A combination of plant extracts in the treatment of outpatients with adjustment disorder with anxious mood: controlled study versus placebo.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4586582/>

Bourin M, Bougerol T, Guitton B, Broutin E. *FundamClinPharmacol.* 1997;11(2):127-32.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5111351/>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3593772/>

<https://www.ncbi.nlm.nih.gov/pubmed/22331521>
