



PURE ANTHOCYANINS
HEART OF THE MATTER

MEDOX[®]

ANTHOCYANINS FOR A HEALTHY HEART

Anthocyanins are the immune defence system of plants, characterized by being: strong antioxidants, highly biologically active, with strong medical effects. Aglycones link with glucopyranoside to form anthocyanins. This formation is crucial when anthocyanins are administered to humans. As the actual biological effects are represented by the aglycone part of the molecule, the firm link with the glucopyranoside part is crucial for the penetration and biological effect in plasma.

Medical and clinical research at the University Hospital of Ullevål has documented significant and positive effects for the cardiovascular system.

ANTHOCYANINS - THE MEDICAL FUTURE OF THE 21ST CENTURY



Anthocyanins are known to have a variety of positive health effects.

They are known to possess strong antioxidant and anti-inflammatory properties.

INFLAMMATION

During inflammation enzymes damage tissue in the capillaries. This causes blood to leak into connected tissue, releasing oxidants that damage the blood vessel walls.

Anthocyanins neutralize these enzymes, and their antioxidant capacity prevents further damage to the tissue. Furthermore the anthocyanins repair the damaged proteins in the blood vessel wall.

CANCER INHIBITION EFFECTS

The anthocyanins have been proven to inhibit some cancer cells. Cyanidin-3 glycopyranoside (C3G) and Dephinidin-3 Glucopyranoside (D3G) are known to be especially efficient in their ability to protect cells against cancer enzymes MMP2 and MMP9. These enzymes

seems to be utilized by the cancer cells in order to spread and grow in the tissue. Furthermore, anthocyanins have proven to inhibit the epidermal growth factor receptors VEGV.

Anthocyanins are also proven to possess angiogenesis abilities, preventing the cancer metastasis from establishing an increased number of blood vessels producing a significantly increased blood supply to the tumors. (angiogenesis). Another interesting effect from D3G in particular, is the ability to inhibit growth of leukemia cells HL60 and of ulcerous cancer cells HCT116. Interesting enough, apoptosis seems to be initiated in HL60, but not in HCT116.

DIABETES

The major complications arising from diabetes result from micro vessel damage which is caused by high blood sugar levels. Collagen proteins link with sugars to result in an abnormal polymeric blood vessel collagen. One of the most serious diabetic complications is retinopathy, which causes blindness. Human studies have shown significant improvement in people with retinopathy. In other studies, anthocyanins have been proved to lower blood sugar and to increase the insulin level in cells by as much as 50%.

NERVOUS SYSTEM

The brain is particularly vulnerable to oxidation and to vascular dysfunctions. Studies have shown that anthocyanins can prevent brain cell damage, and even regenerate the damaged cells. In this area a lot of animal (rat) studies have been undertaken, and many more are under way.



CARDIOVASCULAR DISEASES


Anthocyanins are efficient atherosclerosis fighters through their ability to counter oxidants. Studies have shown anthocyanins to lower oxidative LDL-stress levels, which are significant risk factors in cardiovascular diseases. Anthocyanins have a proven ability to protect the integrity of the endothelial cells lining the blood vessels. Studies show that anthocyanins prevent oxidation from hydrogen peroxide and other oxidants.

Anthocyanins regulate the Nitrogen Oxide Synthesis in the endothelium. Influencing NOS in the endothelium the anthocyanins improve eNOS synthesis and nNOS while reducing the surplus iNOS.

Anthocyanins are color molecules in plants representing their antioxidant system.

Aglycones linked with glucopyranoside form anthocyanins.

This combination is crucial for the biological effect in human.

A photograph of a glass of red wine, showing the liquid and the reflection of the glass on the surface. The background is a light blue gradient.

The result of this is that the blood vessels become "smoother, better dilated, more flexible and stronger". These mechanisms are essential in fighting white blood cells adhering to the capillary wall, thus preventing serious heart diseases.

CYCLOOXYGENASE INHIBITION WITH ANTHOCYANINS

Anthocyanins produce significant COX-2 inhibition and moderate COX-1 inhibition compared to for instance Ibuprofen and Naproxen [NSAIDs]. There is less COX-1 inhibition by anthocyanins in comparison to the NSAIDs. This is positive as COX-1 inhibition is responsible for many of the harmful gastrointestinal symptoms associated with NSAID use. Inhibition of its isomer COX-2, the enzymes responsible for the evocation of the inflammatory pathway via conversion of arachidonic acid to the PG2 series, is more effective by anthocyanins than by Ibuprofen and Naproxen.

MEDOX®

Medox® is a 100% pure natural product based on MP865™ made of anthocyanins (color pigments) from bilberries and blackcurrants.

The product comes in boxes of 30 capsules. Daily dosage is 1-2 capsules. Each capsule contains 35 mg or 80 mg (OPTIMAL) pure anthocyanins.

MEDOX® is made by bringing new science and technology into life.

The process plant is a world leader within large-scale production of pure anthocyanins.

The raw materials are Scandinavian bilberries and blackcurrants.

MEDOX® is pure nature!

MEDOX® PURE ANTHOCYANINS

+

Unique and patented
Large amounts of anthocyanins
Anthocyanin complex MP865 from bilberries and blackcurrants
Processed in patented, chromatographic membrane technology
Free and complete anthocyanins penetrate plasma
Reasonable cost per mg active anthocyanins penetrating into plasma
Clinically documented at Scandinavian University Hospitals and clinics

BLUEBERRY PILLS

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Just another one among hundreds
Very few if any, anthocyanins
Cheap blueberry extract as a minor percentage of many different substances
Including simple standard extract with a low percentage of anthocyanins
Bundled and partly destroyed anthocyanins which do not penetrate into plasma
Extremely high cost per mg active anthocyanins
No documentation at all, no effect?





20 YEARS OF EXPERIENCE AND UNIQUE TECHNOLOGY

Medpalett Pharmaceuticals' products are based on a research co-operation with its subsidiary Polyphenols Laboratories AS. Medpalett Pharmaceuticals' has modern laboratories and a unique pilot processing plant at the Hanabryggene Technology Center in Sandnes, Norway.

The research team working for Medpalett Pharmaceuticals' has over 20 years of experience within isolation and characterization of anthocyanins and other Polyphenols. This experience, together with the best raw materials available and a unique technology, secures the consumer a product of the very highest quality.

Medpalett Pharmaceuticals and Polyphenols Laboratories are both members of the Biolink Group. The Biolink Group is a cluster of biotechnology companies working within the areas of polyphenols, anthocyanins and synthetic organic chemistry. Today, a number of professors, doctors, scientists and students from home and abroad are working on our technology which is a world leader in this field.

The Biolink Group delivers pure natural substances to medical and biotechnology research units in 35 countries on all continents.

“RESULTS FROM CLINIC RELATED TO A

Health-related studies in institutes of medical

In a double blind, placebo controlled study involving 120 women and men between the ages of 40 and 77, each consuming 4 capsules a day, the medical researchers found that MEDOX® has a significant and positive influence on the heart and circulatory system.

More detailed studies are being carried out as a result of these interesting findings. As a conclusion on the findings, one might deduct that MEDOX® leads to:

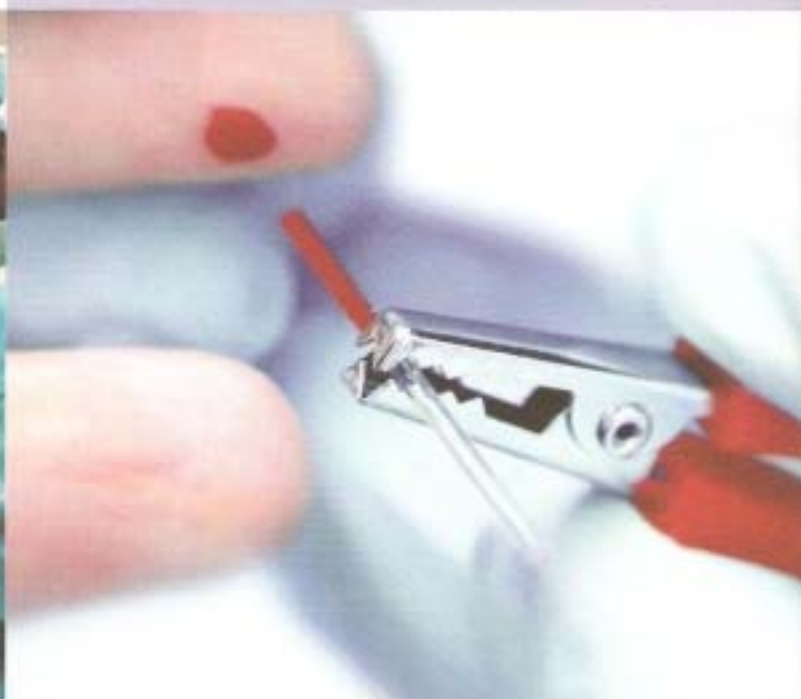
Smoother, stronger and more flexible blood vessels

Lower risk of heart diseases

Longer life

Less stress

Improved oxygen level and elevated lactate threshold



AL STUDIES COULD BE LONGER LIFE"

research at university hospitals in Scandinavia

Although concentrating on the cardiovascular system, we have continuous clinical studies going on, both in vitro and in vivo, on animals and on human beings:

MP865™ and the possible influence of cancer cell growth and spread [MMP] [2001] - 2005/2006

MP865™ and the possible effect on oxidative stress [2005/2006]

MP865™ and the possible influence on asthma [2004/2005]

MP865™ and the possible effect on stress [2005/2006]

MP865™ and the possible influence on the immune defense system [2003/2004]

MP865™ and the possible influence on the heart [2003/2004/2005/2006]

MP865™ and the possible influence on ischemia, heart attacks and stroke [2005/2006]

MP865™ and the possible effect of vasodilatation and blood pressure [2005/2006]

MP865™ and possible influence on diabetic and kidney failures [2005/2006]

MP865™ and the possible influence on Alzheimers/dementia [2005/2006]



RESEARCH PARTNERS

Among our research partners are: Center of Clinical Research, Surgical Clinic and Institute of Experimental Medical Research, both at Ullevål University Hospital, one of the major research hospitals in Europe.

We also cooperate with Centre for Molecular Medicine, Department of Clinical Science, and Department of Kidney Science at the Karolinska Hospital in Stockholm, the Institute of Nutritional Research at the University of Oslo, as well as the University of Stavanger and the University of Bergen. In addition we have established research cooperation with different clinics and other nutritional and medical research institutions.

SOME RESEARCH PROJECTS AND USER FOLLOW-UP

Early in 2001 an in vitro study at the Institute of Medicine in a Scandinavian university hospital demonstrated that Medox® significantly inhibited the growth and spreading of tumor cells in a human brain tumor. This correlates with the well known effect of anthocyanins influencing the cancer cells' enzymes MMP2 and MMP9.

PROSTATE PATIENTS USING MEDOX® OPTIMAL

Our findings in these cases have been as follows: Most prostate patients have experienced significant improvement with their urinating problems after 2-3 weeks. Eight out of ten have experienced a significant reduction of their PSA-values. However, in some of these cases the PSA values have risen again after 6-9 months - although not up to the level prior to intake of Medox® Optimal. In the patients that had metastasis spread to the skeleton we experienced a total halt of the spread, without exact knowledge of how long this will last.

Further cancer studies have later had a lower priority, allowing us to spend more resources on heart disease studies. However, we have for some time been following a number of prostate cancer patients taking larger doses (6 capsules a day) of Medox®. This has been coordinated with urologists.

DIABETES PATIENTS USING MEDOX® OPTIMAL

We have for some time followed diabetic patients taking one capsule of Medox® a day. Some of the conclusions so far are: the results are closely related to those of the heart patients under observation. A more scientific study on the effect of the

medicine on diabetics and kidney failures will be carried out at the Karolinska Hospital in Stockholm.

HEART PATIENTS USING MEDOX® OPTIMAL

We have for some time followed about 1,700 heart patients taking one Medox® Optimal capsule a day. Although, not a professional scientific study, we have gathered some interesting data from our annual questionnaire:

- 01 About 2/3 of the users claim to have had fewer colds after starting to use Medox® [Conforms with clinical study of the immune defense system].
- 02 About 2/3 of the users claim to have felt better after starting to use Medox® [Conforms with clinical study of heart and veins].
- 03 About 1/4 claim to have lower blood pressure after starting to use Medox®.
- 04 About 1/3 claim that they have experienced lower cholesterol levels after starting to use Medox®.

This kind of information is not scientific. However, it can give us a lead on which areas to target in future scientific studies.

Among several other interesting experiences claimed by the above Medox® users, we got some specific feed-back about significantly reduced use of nitroglycerine, reduced heart flicker, lowered pulse, and about sight improvements.

The sight improvements we mostly relate to the well-known influence of anthocyanins on cataract. There are users of Medox®, including medical personnel, who have experienced a significant or total improvement in eyesight reduced through cataracts. (Consuming 6 capsules a day.)

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BIOLINK GROUP

The first company in Biolink Group AS was formed in 1998 after many years of research in polyphenols and anthocyanins at the University of Bergen. All four subsidiaries are working within phytochemicals, "the 21st century's multibillion dollar industry".

The Biolink Group companies concentrate on Polyphenols and specialize in Anthocyanins.

The group is today among the world leaders in this niche.

Polyphenols Laboratories AS has, since its establishment in 1998, been delivering single molecules of Polyphenols and Anthocyanins to research hospitals and biotech industry all over the world. The research activity in medical areas like cancer and heart disease has been increasing since 1998. Some of the most active countries within phytochemical research are Japan, USA, France, Italy, China and Australia.

Medpalett Pharmaceuticals AS is developing, processing and selling anthocyanin products like Medox® to the consumer market.

Biochem Laboratories AS carries out research and development in phytochemical substances for the fish farming and the veterinarian markets.

Biosynth Laboratories AS carries out research and development of synthetic molecules primarily in the anthocyanin area.

The purpose of this is achieving biologically active synthetic anthocyanin molecules to be patented for medical applications.

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