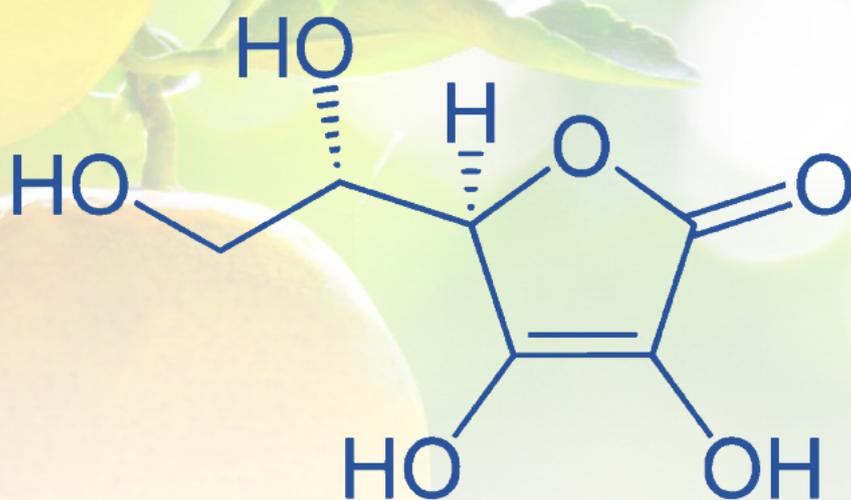


Vitamins: Harm or Benefit?

Quality and research matter!
What you should know as a
user of nutritional supplements.



Dr. Rath Health Foundation

**RESULTS
OF OUR
RESEARCH**



A "world without disease" has become a real goal

Vitamin research is the key to reaching this goal

At the beginning of the third millennium, in many areas mankind is making enormous progress that was virtually unthinkable before. In the area of transport we are witnessing the end of the era of internal combustion engines. This "outdated" technology is now being replaced all over the world, mainly by electric vehicles that obtain their energy from a network of solar-powered service stations, as is already the case in many parts of the USA.

People's demand for renewable technologies and protection of the environment is overcoming their control by economic and political interests. People have woken up and no longer want to be fed fairy tales by industry lobbyists. But this global change in the energy sector is just the beginning.

A revolution has long been underway that affects millions of lives even more directly: the goal of a "world without disease" has become achievable. This is not the result of genetic therapy using new synthetic drugs. The reason for this revolution is the enormous progress that has been made in the area of scientifically based natural health approaches - especially in the area of micronutrient research.

The above diagram underscores this fact impressively. Its curve reflects the amount of knowledge of the fundamental importance of vitamins and other micronutrients that has accumulated over the last two decades. Applying this knowledge world-

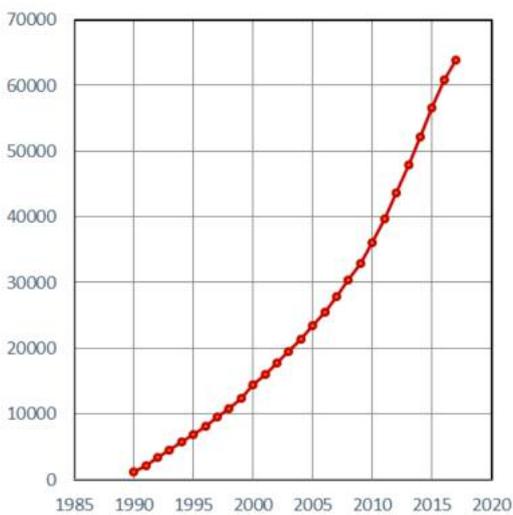
wide could save millions of lives and billions in disease costs.

Interests that are opposed to this goal

Just as oil companies oppose the liberation of mankind from its dependence on fossil fuels, there is a massive resistance on the part of drug companies against the scientific breakthroughs of vitamin research. The reason for this is obvious: the pharmaceutical industry is an investment business based on the perpetuation of disease, rather than their elimination. The perpetuation of disease is the "marketplace" for patented, synthetic high-priced products. The systematic prevention of disease - and, therefore, the elimination of entire classes of disease - is a fundamental threat to this investment industry.

Each year, with the aim of publicly creating the impression that this questionable business model actually benefits patients' needs, the pharmaceutical industry invests hundreds of millions in advertising campaigns in the mass media. These media outlets thus spread bad news about un-

Exploding knowledge of the crucial importance of vitamins



Total number of vitamin studies published worldwide, 1990-2016

The curve shows the exponential growth of our knowledge in the field of vitamin research.

Source: PubMed

Too much vitamin B6, B12 may triple risk of lung cancer for smokers

By Charles E. Zickl, Men's Health

Example of an online report stating that vitamin supplements allegedly increase the risk of cancer. Fox News, Sept. 7th 2017

wanted competitors of the pharma industry, such as reports on the alleged dangers of vitamins.

To be absolutely clear: vitamins are products derived from nature that, for millions of years, have been playing a life-sustaining and health-promoting role for the inhabitants of our planet. Obviously, this only applies to the natural forms of these micronutrients. Therefore, the question that arises is: how much truth is there to reports of alleged risks caused by vitamin supplements?

Interests that put the achievement of this goal at risk

The great progress in the field of micronutrient research has aroused widespread interest. As a result, a growing number of manufacturers and suppliers want a share of this "boom" and are offering multivitamin products and other nutritional supplements in all shapes, colors and sizes. In general, all these products have one thing in common: they were not scientifically tested for their effectiveness and, instead, are advertised using health claims taken from random publications by third parties.

What's more, due to the growing competitive pressure on the mass market of food supplements, manufacturers feel obliged to further reduce the costs of their ingredients. This is only possible if synthetic - i.e. artificially created - substances are used instead of micronutrients from natural sources. While human body cells are able to identify and utilize vitamins of natural origin, their interaction with synthetic substances is largely unclear.

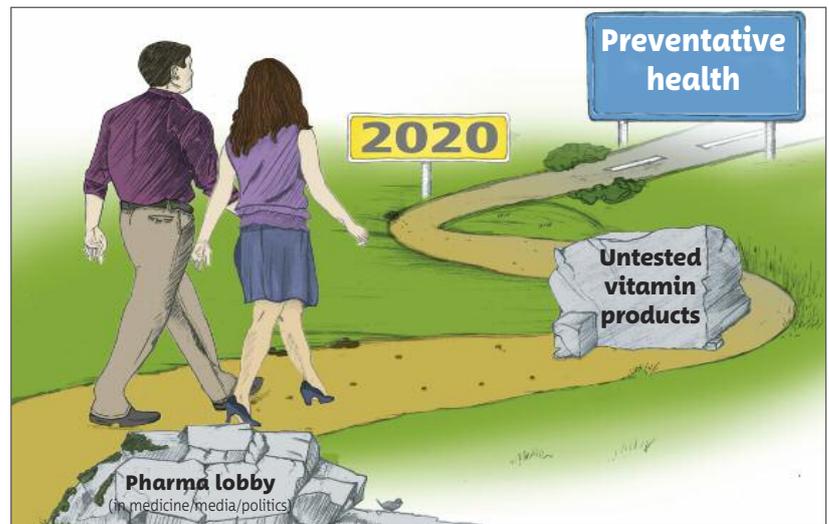
As a result, millions of users are currently taking nutritional supplements that have a doubtful or even harmful effect.

Quality campaign in the area of food supplements

Information is the precondition for change. If we want to create a healthcare system that aims at the prevention and eradica-

tion of disease in the long term, we must disclose the interests that are opposed to these goals. Apart from the pharmaceutical industry, untested and low-quality nutritional supplements are the main threat to this goal.

This brochure documents the results of comparative studies on micronutrient combinations that are widely used in Europe. These are compared with micronutrient combinations that have been developed and tested on the basis of scientific research. The results speak for themselves.



This brochure does not intend to denounce, but to inform. Users of nutritional supplements are invited to demand clear studies from manufacturers about the safety and efficacy of their products. At the end of this decade, there must be no vitamin company left that does not conduct its own research. Only then will we have moved a decisive step closer to a new, preventative healthcare system.

Worldwide leading research institute for science-based natural health

The Dr. Rath Research Institute is a world leader in conducting natural health research. For more than a quarter of a century, Dr. Rath and his research team have been working on creating the scientific basis for a preventative healthcare system.

Scientific discoveries are the beginning

1991: Dr. Rath discovers that the common migration paths of all cancer cell types can be blocked by natural means. Specific micronutrients are capable of preventing cancer cells from dissolving the connective tissue that surrounds them. This discovery is

backed by two-time Nobel Prize laureate Linus Pauling and continues to form one of the scientific foundations of Dr. Rath's research work.

1999: The Dr. Rath Research Institute in California is founded.

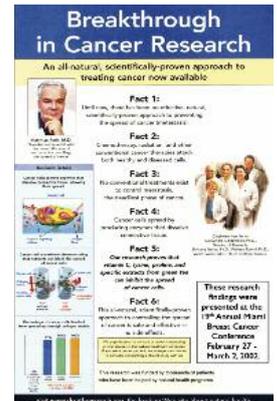
Its initial focus is scientific confirmation of the discovery regarding the importance of micronutrients in controlling cancer cells. Dr. Aleksandra Niedzwiecki, a world-renowned biochemist and molecular biologist, assumes management of the institute.

2002: One of the world's biggest newspapers, USA Today, publishes an announcement of the scientific breakthrough in micronutrient-based cancer research. Millions of people become informed.

Over almost two decades, the knowledge acquired at the Dr. Rath Research Institute has overcome all resistance, particularly that of the pharma lobby. Based on Dr. Rath's discoveries, micronutrient combinations have been developed and successfully tested on more than 50 human cancer cell types (see pages 12/13).

The Institute's research team has published over 100 scientific papers in international professional journals. The website of the Institute provides an insight into the work of this unique research facility:

www.drrathresearch.org



USA Today, March 8th 2002, Announcement of the breakthrough in cancer research



Dr. Matthias Rath (right) and Dr. Linus Pauling, 1992

The Dr. Rath Research Institute and research team (picture on the right)



See for yourself

We invite you to take a look at PubMed (www.pubmed.com), the world's largest online archive of scientific publications. This website belongs to the National Library of the United States National Institutes of Health.

At this website, you can check whether the manufacturer of your food supplement

has published any scientific research. Simply enter the name of the provider in the search field.

If you enter "Rath Research Institute", almost 100 studies will be displayed. The following list compares this number with the scientific publications by other providers.

Cellular Medicine Research Search entry at PubMed Online Library	Published studies with micronutrients on PubMed as of 1st September 2017
"Rath Research Institute"	94
"Rath M AND Niedzwiecki A"	112

Other vitamin suppliers for comparison Search entry at PubMed Online Library	Published studies with micronutrients on PubMed as of 1st September 2017
D	
Abtei	0
Blue Biotech / Peter Hartig	0
Centrum	2
DM Das gesunde Plus	0
Doppelherz	0
Eunova (Stada)	0
Hansa Vital GmbH	0
INGE (Institut für Nahrungsergänzung und Ernährung)	0
Klosterfrau	0
Lifeplus	0
Multinorm (Aldi)	0
Orthomol	1
Rosaxan	1
Sanatur GmbH	0
Sanostol	0
Stada	0
Tisso	0
Vitaviva	0
Zirkulin	0
CH	
Burgerstein	0
A	
Biogena	0
Ringana	0

Is the growth of cancer cells inhibited or promoted by micronutrients?

Comparison studies with micronutrient combinations

Remarks about the following scientific tests

Which micronutrients combinations were tested?

This comparison group was composed of six micronutrient combinations (multivitamins) obtained from leading manufacturers on the European market. The selection of these "comparison combinations" was made randomly. These combinations were compared to micronutrient combinations scientifically developed at the Dr. Rath Research Institute.

What is the dosage?

The dosages used in the tests corresponded to the daily amounts recommended on the labels of the micronutrient combinations.

The following graphs provide only average values for the comparison products. Why are there no individual names of products or manufacturers provided?

The goal of these scientific tests was not to expose individual manufacturers. Rather, the goal was a general assessment of the influence of various widely used micronutrient combinations on human cell systems. This question was highly relevant because scientific testing and documentation of the benefits of micronutrient combinations is the exception in the nutritional supplement industry.

Influence of different micronutrient combinations on the growth and survival of human liver cancer cells

In these scientific serial tests, the effect of various micronutrient combinations on human liver cancer cells was evaluated in terms of their induction of cell growth and cell survival.

The dosages used corresponded to the recommended daily intakes. The test controls (cancer cells without the addition of tested micronutrients) are shown in the graphs as a dotted red line (zero line).

The results of the effect of these micronutrient combinations are shown as a percentage of the decrease of cancer cells (below the zero line) or increase of cancer cells (above the zero line) in relation to the controls.

The results illustrate that not all micronutrient combinations are capable of killing cancer cells. On the contrary, the micronutrient combinations designated as "comparison combinations" led to an average increase in

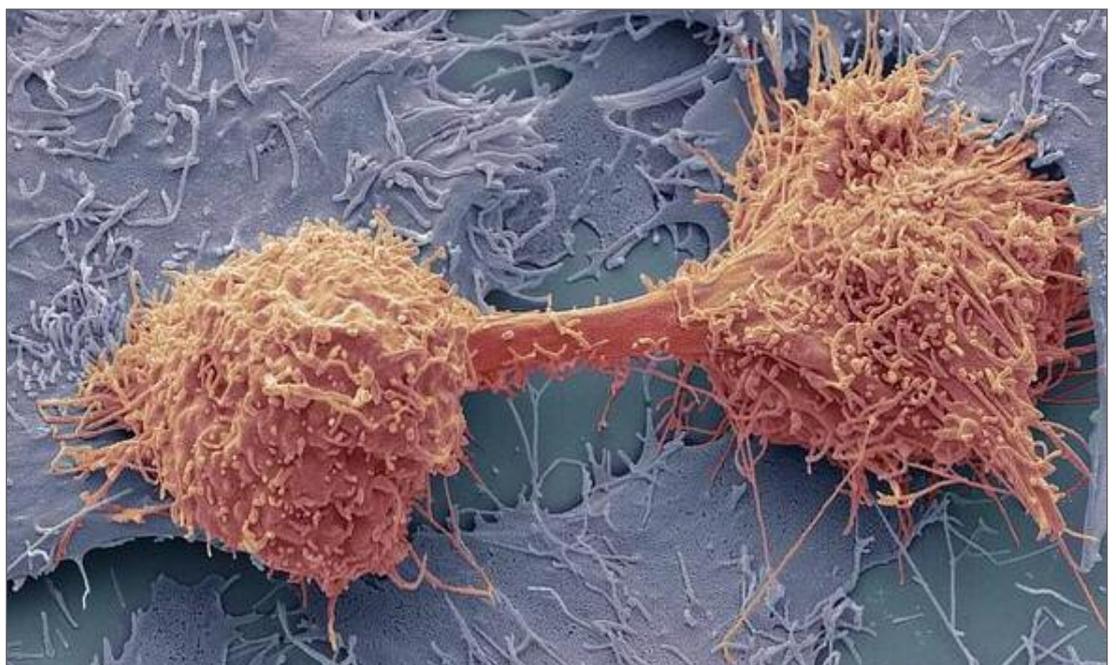
the growth of cancer cells by 56% (dark red column on the right).

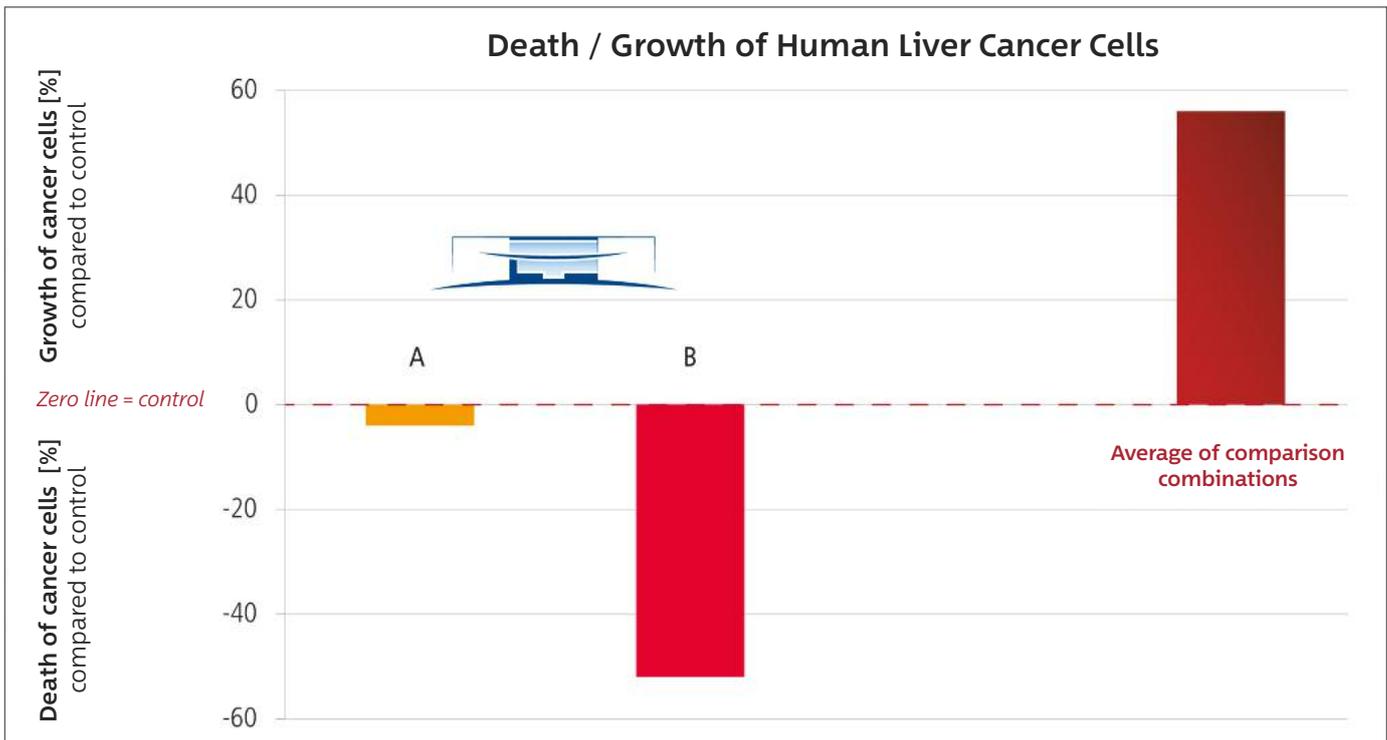
In contrast, the micronutrients developed in collaboration with the Dr. Rath Research Institute and tested in this research project were able to block the multiplication of cancer cells and induce the natural death of cancer cells (apoptosis).

A basic micronutrient combination (column A) led to a halting - and even a slight decrease - of cancer growth. Particularly remarkable was the inhibiting effect shown by a micronutrient combination specifically developed for this purpose (column B). This combination exhibited a significant decrease of cancer cells. With this specific micronutrient combination, more than half (52%) of the liver cancer cells were killed.

One cannot rule out the possibility that the explanation for this alarming result was the

Microscopic image of a dividing liver cancer cell





Tested micronutrient combinations composed of:

A: Different vitamins, minerals, trace elements, amino acids and phytochemicals

B: Vitamin C, lysine, proline, arginine, green tea extract, quercetin, selenium, copper, manganese

Study: Comparison of the efficacy of several nutritional supplements on cancer and normal cells growth
www.jcmnh.org/go/nutritional-supplements-on-cancer-and-normal-cells-growth

selection of less expensive synthetic materials for use in these micronutrient combinations. Thus, the chemically synthesized micronutrients could have competitively inhibited the access of natural micronutrients to the interior of cells and, thereby blocked their biological effect - in this case, the induction of cancer cell death.

Based on the results of these experiments, the occasional media coverage about the alleged cancer-promoting effects of certain vitamins may at least be partly explainable.

Poorly designed nutritional supplements provide a breeding ground for the general defamation of natural health approaches.

Influence of different micronutrient combinations on the inhibition or growth of human skin cancer cells (melanoma)

Picture I: Graphical documentation of the test results

In this study (picture I, page 11 top) different micronutrient combinations were tested on human skin cancer cells, according to the respective daily recommendations contained on their labels. As in the previous experiment, the effect of these micronutrient combinations was studied in relation to the induction of growth and survival of human cancer cells.

As in the previous experiments with liver cancer cells, the "comparison combinations" showed on average a significantly increased growth of human skin cancer cells (picture I, red column to the right). On average, based on all the "comparison combinations", cancer cell growth more than doubled compared to the control, i.e. cancer cells without micronutrients.

In contrast, the micronutrient combinations developed in collaboration with the Dr. Rath

Research Institute displayed the following results: a basic combination (column A) resulted in halting the cancer cell growth and in reducing the cancer cells by 20% compared to the control. Even more significant was the fact that a specially developed micronutrient combination (column B) was able to induce cell death in 86% of the cancer cells.

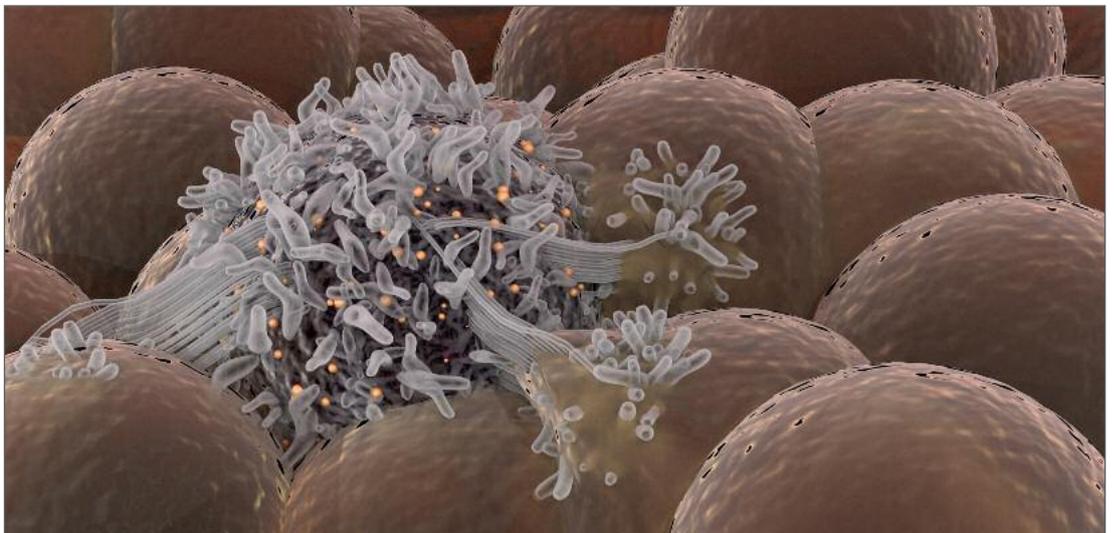
Under the microscope (picture II) the result of these tests on human skin cancer cells are particularly illustrative.

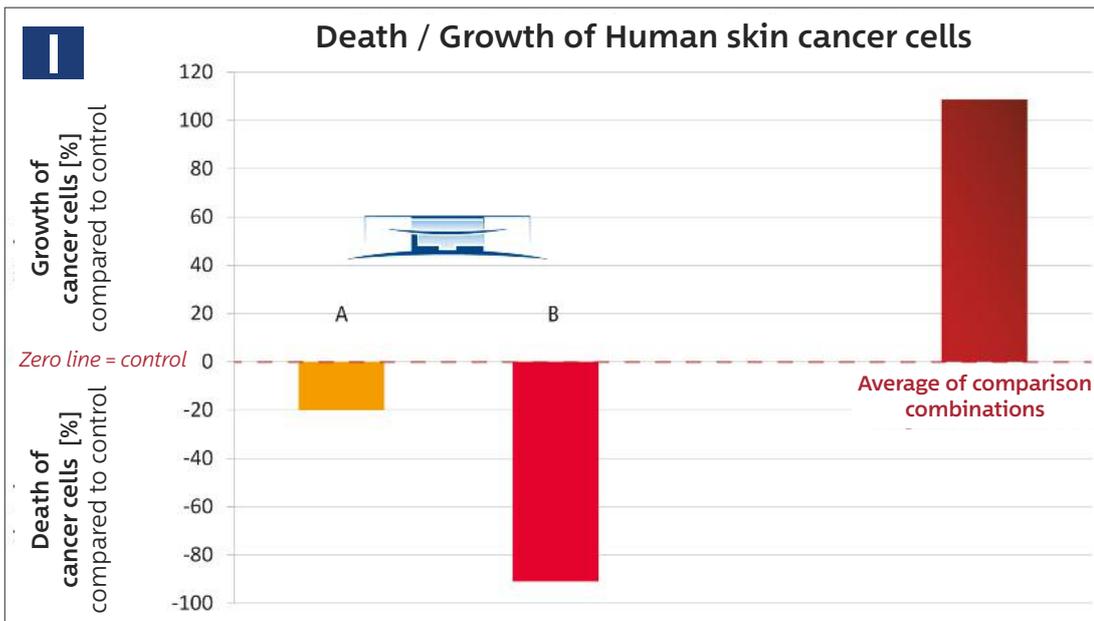
Picture II: Microscopic documentation of the test results

In picture II (page 11, bottom), microscopic results are shown that correspond to the respective columns of the diagram above (picture I):

- The microscopic control picture is presented at left and corresponds to the zero line in picture I: The test dish is covered with cancer cells.

Human skin cancer cells under the microscope

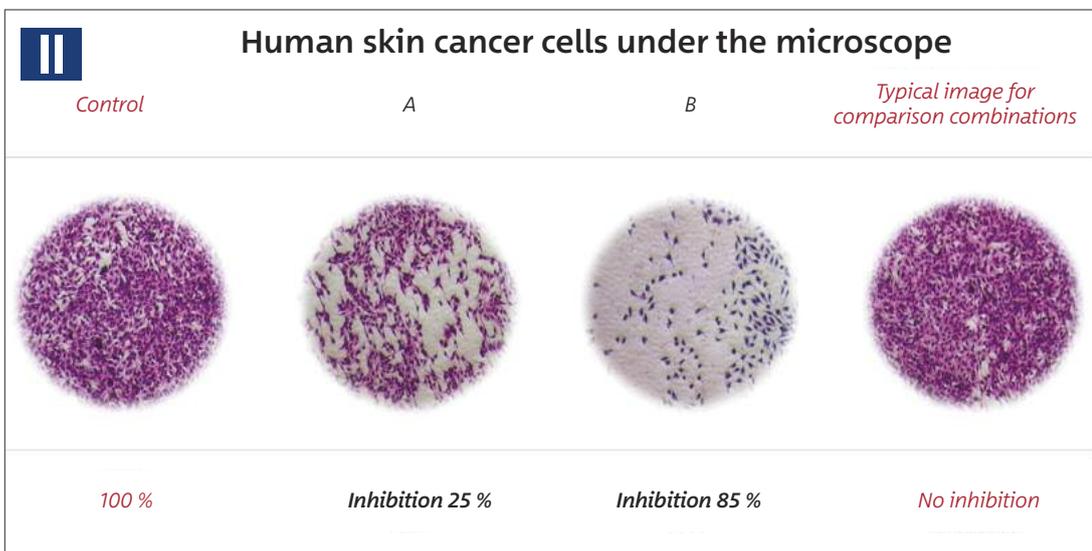




Tested micronutrient combinations composed of:

A Different vitamins, minerals, trace elements, amino acids and phytochemicals

B Vitamin C, lysine, proline, arginine, green tea extract, quercetin, selenium, copper, manganese



- Microscopic picture A corresponds to column A above: The number of cancer cells is already reduced compared to the control.
- Microscopic picture B corresponds to column B above: The number of cancer cells compared to the control is significantly reduced - only a few cancer cells have survived.
- The microscopic picture on the right corresponds to the "comparison combinations" column and provides a representative view of a test dish of the majority of comparison products. On average, compared to the control, the cancer cell growth increased significantly. This means that the cancer cells exposed to these comparison micronutrients multiplied much more rapidly than in the control, i.e. without any addition of micronutrients.

The negative test results of the "comparison combinations" do not mean that they actually induce new cancers.

However, they signify that the multiplication rate of existing cancer cells increases significantly in the presence of these "comparison combinations".

The fact that these negative test results of the "comparison combinations" occurred in both investigations - with human cancer cells of the liver and of the skin (melanoma) - suggests that similar results can be expected with cancer cells from other organs.

Scientifically confirmed: Micronutrients can inhibit cancer cell growth

In connection with the ambitious goal of achieving a "world without disease" that we defined at the beginning of this documentation, it is a legitimate question as to whether micronutrients are indeed capable of inhibiting cancer cell growth or inducing the selective killing of these cells - without affecting healthy cells.



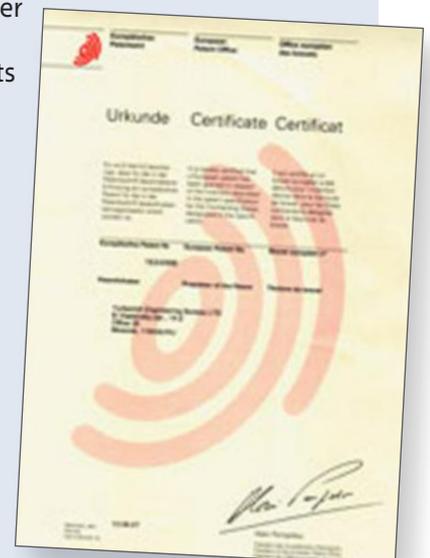
The internationally renowned scientists who have conducted this groundbreaking research for two decades: Dr. Aleksandra Niedzwiecki (Head of the Research Institute) and Dr. Waheed Roomi (Head of cancer research).

Over the past two decades, the Dr. Rath Research Institute has pioneered scientific research into new ways of blocking cancer cell growth, invasion, and metastasis using natural approaches. Further information on this pioneering scientific work can be obtained from the books presented in the appendix section of this documentation.

The adjacent page documents a comprehensive list of research results obtained at the Dr. Rath Research Institute using micronutrient combinations specifically developed for fighting more than 50 human cancer cell lines.

Background information to the adjacent table of cancer research results:

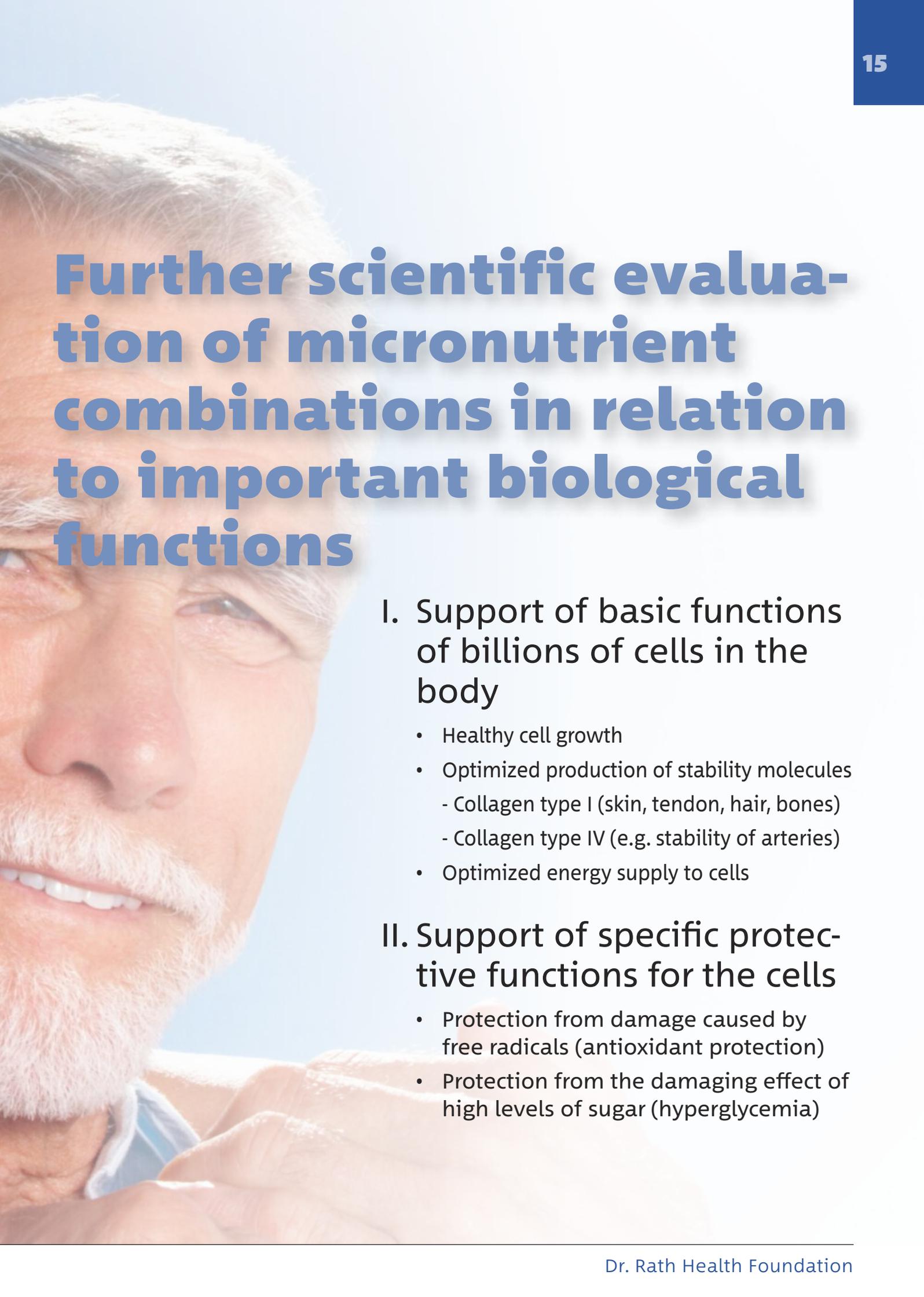
1. The scientific tests were conducted with human cancer cells that are being used worldwide by research centers studying cancer. In total, the Dr. Rath Research Institute has tested over 50 human cancer cell lines.
2. All human cancer cell types listed were partially or completely blocked using micronutrient combinations developed at the Institute. Details can be taken from the respective scientific publications, which are documented on the Institute website (see point 5 below).
3. The adjacent list documents the careful evaluation of scientific tests conducted over two decades. These scientific results are not a promise of a cancer cure for patients with this disease; however, the scientific findings can provide valuable additional options for patients when talking to their therapists.
4. By law, it is not possible to attach claims of therapeutic value to nutritional supplements. This documentation is complying with this law and, therefore, does not contain any product names.
5. The micronutrients used in these tests are documented in the respective published studies, which can be reviewed and downloaded from the website of the Institute at www.drrathresearch.org/publication/cancer
6. The micronutrient combination used in most of the scientific studies documented in the adjacent list is patented in the US, Germany, and other countries.



Human cancer cells that were successfully tested in experiments with scientifically developed micronutrient combinations

Type of Cancer	Specific Cancer Cell Types Tested
Cancer of reproductive organs	Breast cancer: <ul style="list-style-type: none"> • Hormone dependent • Hormone independent • Male breast cancer
	Cervical cancer
	Ovarian cancer (carcinoma)
	Uterine cancer (carcinoma)
	Prostate cancer
	Testicular cancer
Cancer of digestive and urinary organs	Liver cancer
	Pancreatic cancer (carcinoma)
	Colon cancer (carcinoma)
	Kidney cancer (carcinoma)
	Bladder cancer (carcinoma)
Cancer of the brain and nervous system	Brain tumor (glioblastoma)
	Tumor of the nervous tissue (neuroblastoma)
Cancer of respiratory organs	Lung cancer
Bone cancer	Bone cancer (osteosarcoma)
	Ewing sarcoma
Blood cancer	Non-Hodgkin lymphoma
	Myeloic leukemia
	T-cell leukemia
	B-cell leukemia
	Fanconi anemia
Cancer of connective tissue	Tumor of connective tissue (fibrosarcoma)
	Tumor of cartilage tissue (chondrosarcoma)
	Tumor of fat tissue (liposarcoma)
	Tumor of muscle tissue (rhabdomyosarcoma)
	Tumor of inner lining of joint capsules (synovial sarcoma)
Cancer of the head	Cancer of the tongue
	Head and neck cancer (carcinoma)
	Tumor of the eye (retinoblastoma)
	Thyroid cancer
Skin cancer	Skin cancer (melanoma)





Further scientific evaluation of micronutrient combinations in relation to important biological functions

- I. Support of basic functions of billions of cells in the body
 - Healthy cell growth
 - Optimized production of stability molecules
 - Collagen type I (skin, tendon, hair, bones)
 - Collagen type IV (e.g. stability of arteries)
 - Optimized energy supply to cells

- II. Support of specific protective functions for the cells
 - Protection from damage caused by free radicals (antioxidant protection)
 - Protection from the damaging effect of high levels of sugar (hyperglycemia)

Influence of different micronutrient combinations on the growth of healthy cells

Healthy cell growth is exceptionally important for the development and maintenance of a healthy body. Billions of cells - the smallest functional units of the body - are constantly involved in regenerative processes where old and damaged cells are being removed and replaced with new cells. These processes are an essential prerequisite for every period of life and for the prevention of early aging and disease.

The growth of newly-formed cells requires a regular supply of nutrients. Since cells differ widely with regard to their function, they place different demands on the supply of nutrients, particularly of *micronutrients*.

Do the tested micronutrient combinations promote the growth of healthy cells?

In order to follow up on this question, tests were carried out on human connective tissue cells (fibroblasts), which are important for the stability and elasticity of the skin. The dosages used corresponded to the respective recommended daily allowance of the comparison products. The effectiveness of the micronutrient combinations is reflected in cell growth.

Similar to the graphs in the previous section, the control (no addition of micronutrients) is shown as a zero line. Columns that face upwards indicate a growth-promoting effect; columns that face downwards indicate a growth-inhibiting effect.

The differences between the comparative combinations and the combinations developed and tested on a scientific basis were unambiguous, too: the average value of the comparison combinations (red column) shows that the tested comparison combinations had no stimulating effect on the growth of fibroblasts. On the contrary, they inhibited the cell growth of healthy fibroblasts (approx. 20% growth inhibition).

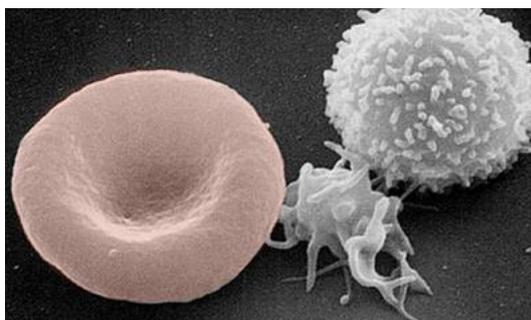
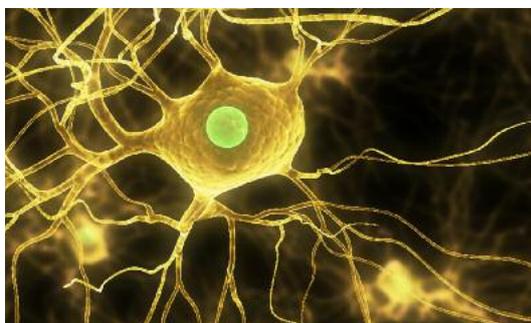
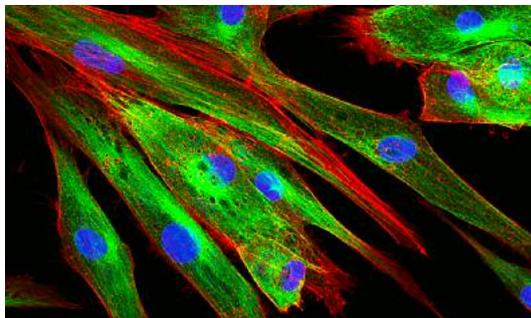
In contrast, an additional cell growth of more than 50% was achieved with the micronutrient combination (column A) devel-

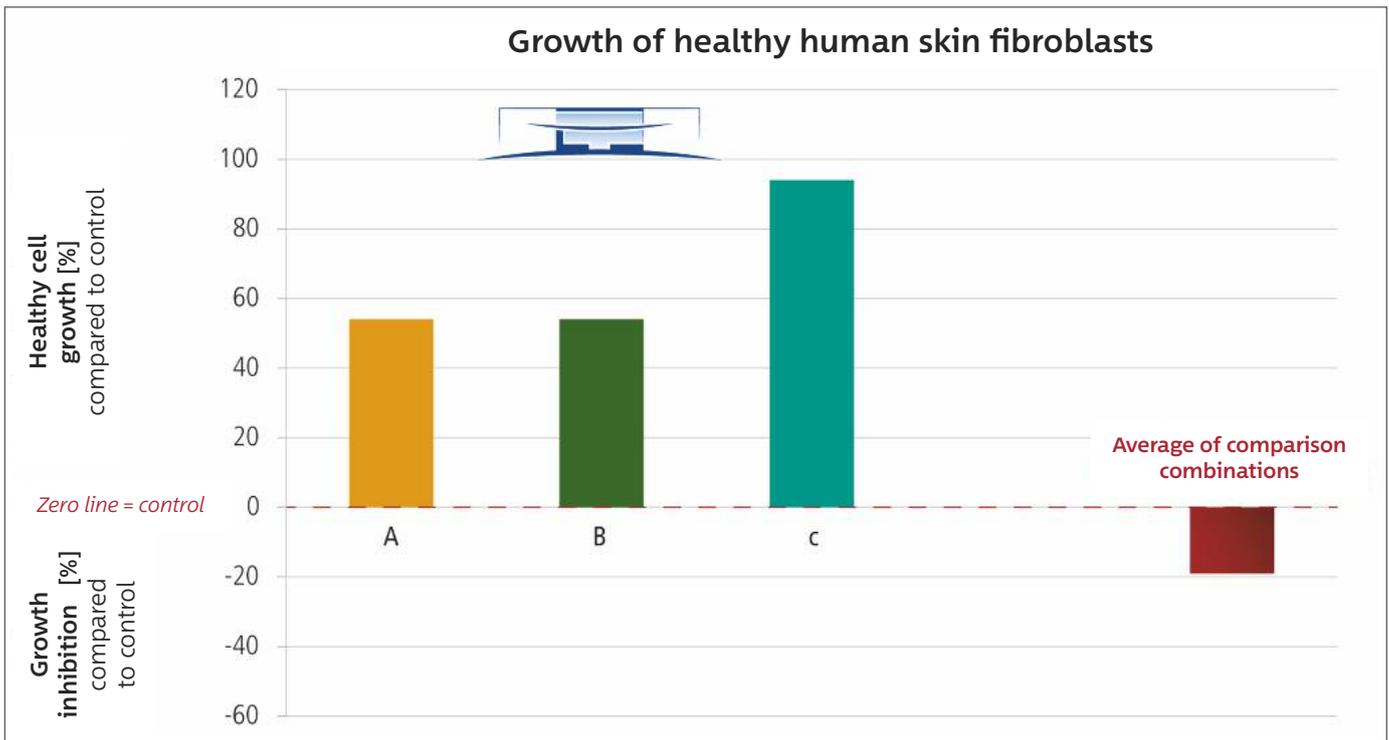
Healthy growth of the various cell types of the body is a prerequisite for life.

Above: Connective tissue cell (fibroblast)

Middle: Nerve cell

Below: Blood cells (Leukocyte, erythrocyte, thrombocyte)





Tested micronutrient combinations composed of:

A: Different vitamins, minerals, trace elements, amino acids and phytochemicals

B: Green tea extract, curcumin, resveratrol, cruciferous plants, quercetin

C: Vitamin C, E, B6, D, folic acid, lysine, proline, copper, betaine, chondroitin sulfate, acetylglucosamine, pycnogenol

oped in collaboration with the Research Institute. A similar positive effect was obtained with a special combination (column B) developed from plant extracts.

Particular noteworthy was the effect of another combination (column C) developed specifically to support healthy cell and collagen formation. Applying this micronutrient combination, the cell growth of healthy fibroblasts was increased by almost 100%.

These results emphasize the importance of developing purposeful micronutrient combinations.

Effect of different micronutrient combinations on the optimization of tissue stability: Production of collagen type I

The most important function to prevent any form of disease is the stability of tissue in the body. The decisive molecules that are produced in the connective tissue cells (mainly fibroblasts) are collagen fibers. Collagen fibres/fibers have a similar stabilising/stabilizing function to the steel girders in a high-rise building. The more collagen that is produced, the more resistant the body is to disease.

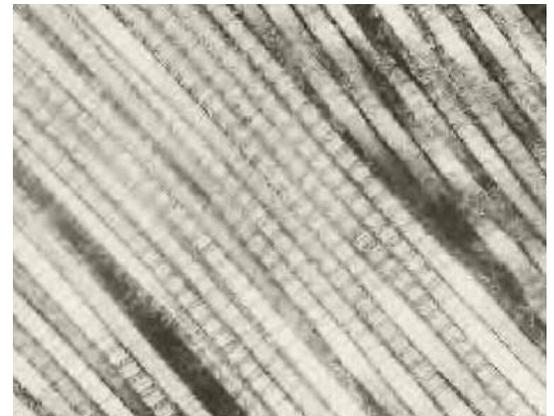
There are different types of collagen in the body, with type I and type IV playing a special role. Type I collagen is mainly responsible for the functions of healthy skin, tendons, bones and teeth. Collagen type IV is particularly important for preserving the integrity of the blood vessel walls and for the optimal functioning of the cardiovascular system.

How do the tested micronutrient combinations affect the production of type I collagen?

This study tested the effect of different micronutrient combinations on the formation of type I collagen by human skin fibroblasts. Again, the dosages used in the tests corresponded to the daily amounts recommended by the manufacturers. The results showed that the tested micronutrient combinations achieved only a minimal increase in collagen production (red column).

In contrast, a four to six-fold increase in collagen formation was achieved with the use of the scientifically developed micronutrient combination (column A to C).

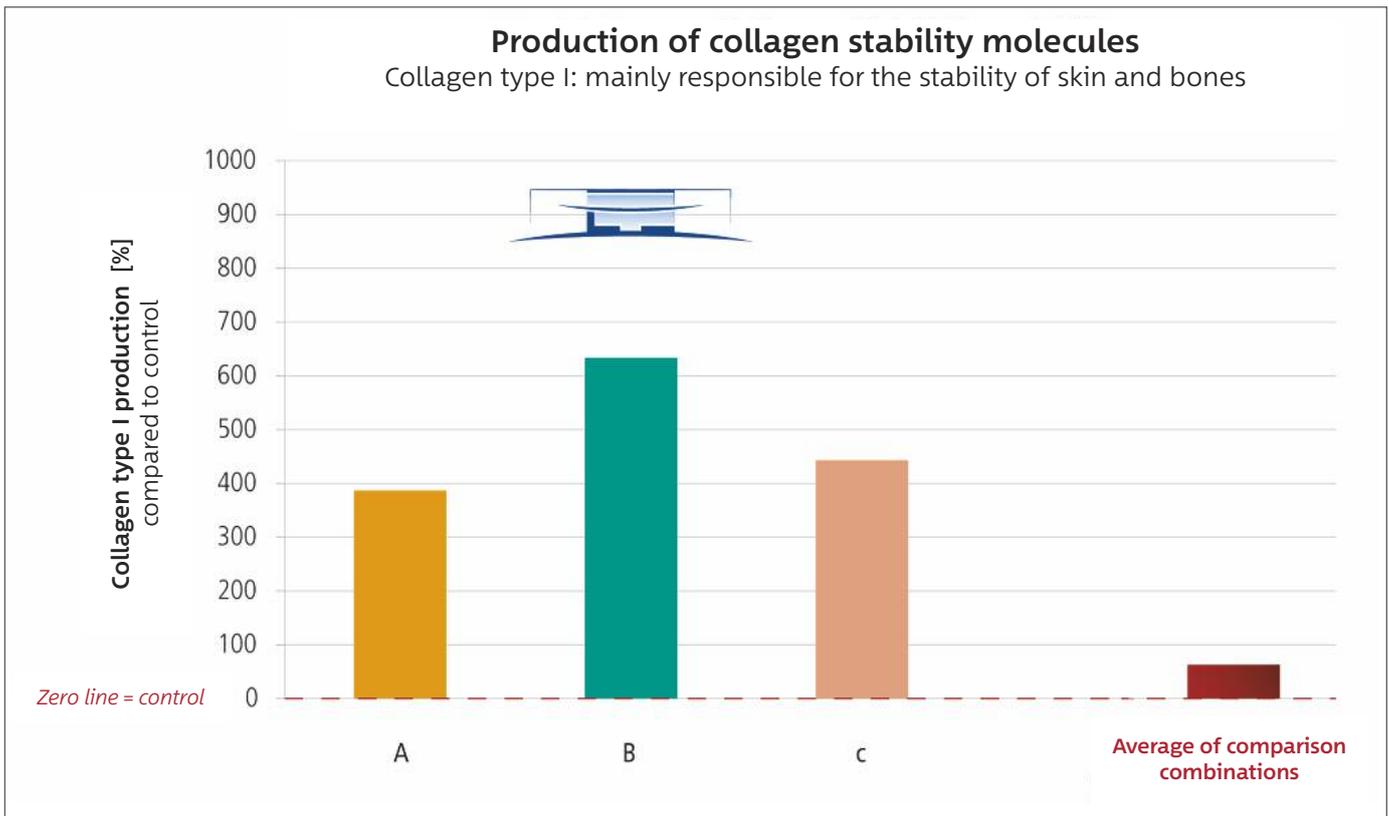
The results show that the tested micronutrient combinations also differ considerably with regard to their ability to optimize the production of stability molecules in the body's cells.



Collagen fibers have a stabilizing function in the body.

The picture above shows these biological "steel girders" under an electron microscope.

Below: Collagen type I can be found particularly in skin, tendons, bones and teeth.



Tested micronutrient combinations composed of:

A: Different vitamins, minerals, trace elements, amino acids and phytochemicals

B: Vitamin C, E, B6, D, folic acid, lysine, proline, copper, betaine, chondroitin sulfate, acetylglucosamine, pycnogenol

C: Vitamin C, lysine, proline

Without scientific proof, advertising claims by vitamin producers should always be questioned.

Effect of different micronutrient combinations on the optimization of tissue stability: Production of collagen type IV

This study tested the effect of micronutrients in stimulating the formation of collagen molecules in the cells of the human arterial wall (smooth muscle cells and fibroblasts). Among other things, type IV collagen molecules formed by these cells are required for the production of the so-called basal lamina, i.e. the layer of connective tissue separating the bloodstream from the blood vessel wall (see graphic).

In contrast to the experiments with collagen type I (see previous pages) this test series did not investigate the production of collagen proteins, but the activation of the collagen production in the nucleus (gene expression).

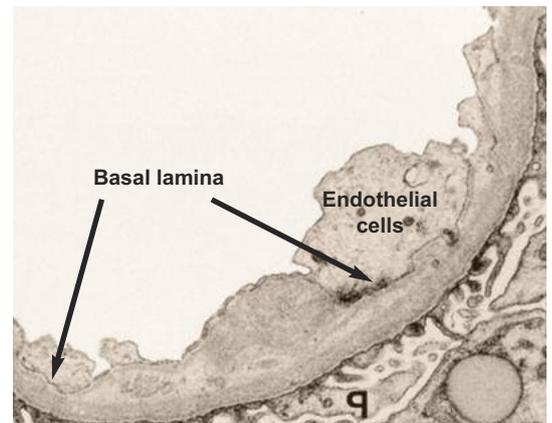
Again, the dosages used in the tests corresponded to the daily allowances. In the adjacent graph, the control value (without the addition of micronutrients) is again represented by the zero line. The columns above the zero line show that the tested micronutrient combinations were able to stimulate collagen production in the cell nucleus (gene expression). Conversely, the column below the zero line signifies an inhibition of gene expression - and, thus, a reduced formation of collagen molecules.

This test series provided further evidence of the unfavorable effects of the comparative combinations. The mean value of these products showed a clear inhibition of the expression/production of type IV collagen stability molecules. Since this type

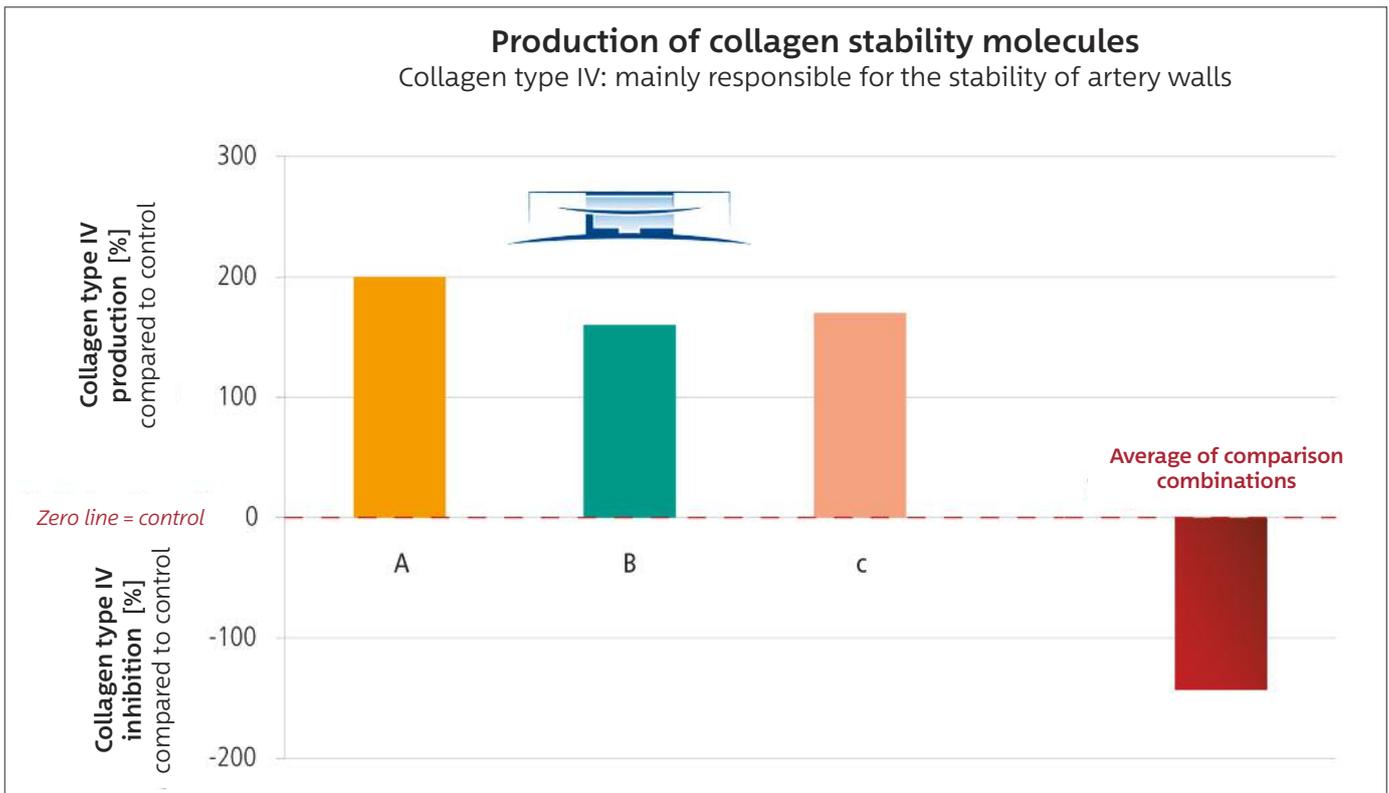
Collagen type IV plays a key role in stabilizing the human blood vessel pipeline, which is about 100,000 kilometers long. Among other things, it is responsible for the production of the so-called basal lamina, i.e. the connective tissue layer that separates the bloodstream from the blood vessel wall.



This cross section of a larger artery shows the importance of connective tissue molecules (especially collagen) for the stability of the arterial wall as a whole.



This cross section of a smaller blood vessel shows some endothelial cells, i.e. the cell layer lining the blood vessels. Directly below this cell layer is the basal lamina (arrows).



Tested micronutrient combinations composed of:

A: Different vitamins, minerals, trace elements, amino acids and phytochemicals

B: Vitamin C, E, B6, D, folic acid, lysine, proline, copper, betaine, chondroitin sulfate, acetylglucosamine, pycnogenol

C: Vitamin C, lysine, proline

of collagen is mainly responsible for the stability of the blood vessel walls, the possible consequences are obvious.

In contrast, by using the scientifically developed combination of micronutrients, collagen type IV formation was stimulated by 160% to 200% (columns A to C) as compared to the control (zero line).

The possible effects on the cardiovascular system, which may occur when the production of important stability molecules is inhibited by the regular use of untested micronutrient combinations, is obvious. Ultimately, the stability of the arterial walls is a crucial prerequisite for the prevention of arteriosclerosis.

Once again, these results confirm the importance of basic research for the development of effective food supplements.

Effect of different micronutrient combinations on the supply of our cells with biological energy (ATP)

Virtually all biological processes that occur in our cells consume biological energy. The decisive molecule for providing this energy is adenosine triphosphate (ATP). ATP is a highly efficient molecule that is capable of storing biological energy within its structure. It is produced in the mitochondria, the energy-producing power stations of our cells, as a universal energy carrier.

Highly active cell systems and organs such as the heart muscle cells and brain cells

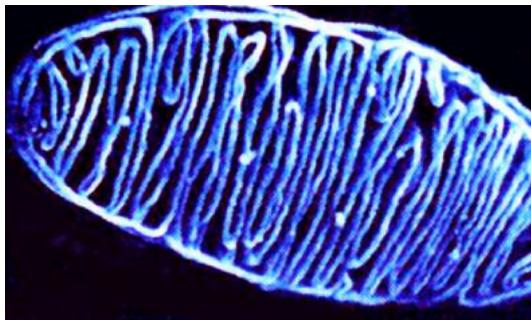
Muscle cell under the microscope

Due to the continuous pumping action of the heart, heart muscle cells have a particularly high energy turnover.



The cell's power station (mitochondrion) under the electron microscope

Bioenergy is produced and stored in these cell structures.



have a particularly high energy turnover. Even the movement of our muscles, for example while walking or doing sports, is only possible with the help of ATP molecules.

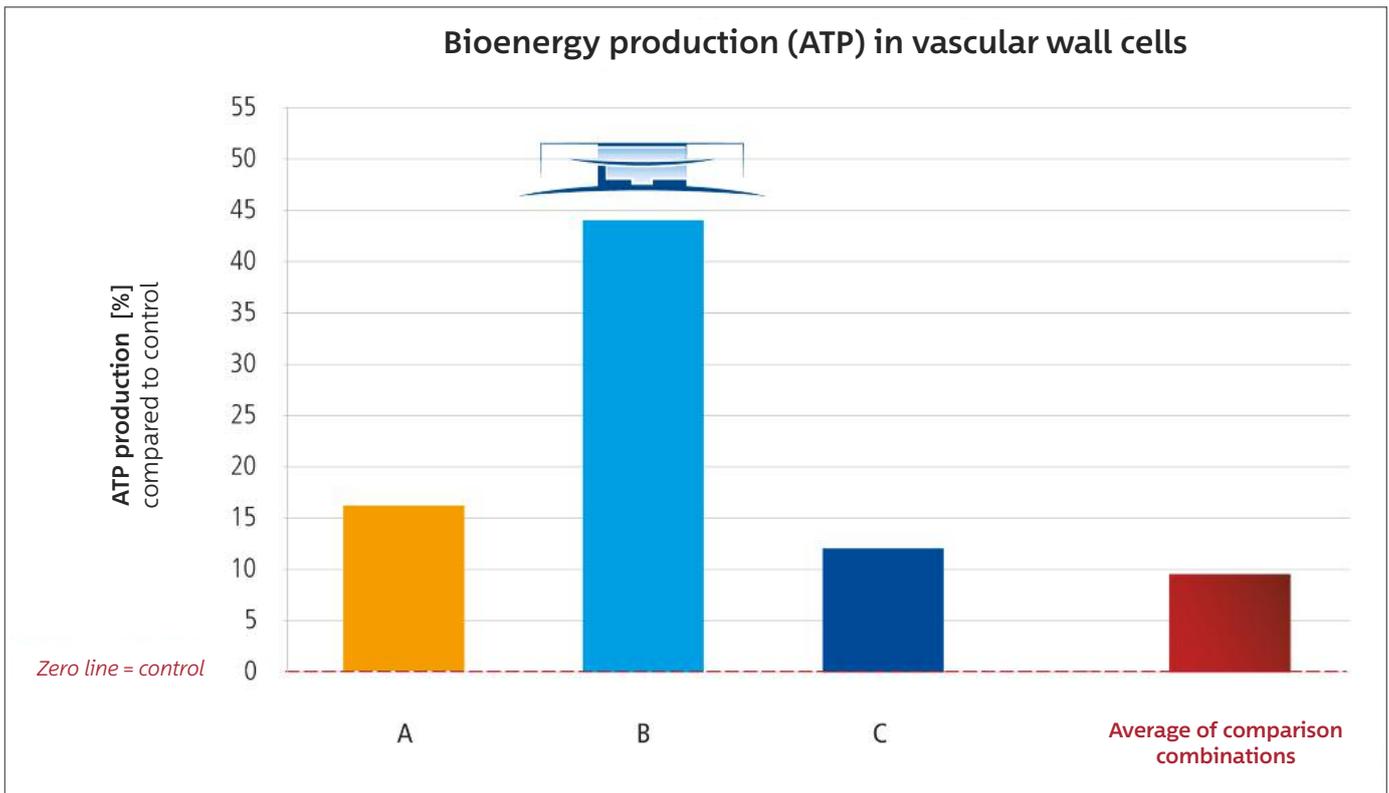
Cellular nutrients are of vital importance for producing and supplying bio-energy in the form of ATP.

Do micronutrient combinations increase ATP formation in the cells?

The studies on the effect of selected micronutrient combinations on ATP formation were performed on human smooth muscle cells of the arterial wall. These cells have a particularly high energy demand and, therefore, possess a large number of mitochondria (energy-producing power stations). A special technique (colorimetry) for measuring the ATP concentration was employed to determine the production of biological energy under the influence of the respective daily allowance of micronutrients.

With an average value of just under 10%, the comparative combinations showed a small positive effect on ATP production (red column).

As for the scientifically developed micronutrient compositions, the general combination showed a slight increase in ATP concentration (column A) as compared to the comparative combinations. With a 44% increase in ATP production (column B), a micronutrient combination specifically developed for optimising optimizing bioenergy production proved to be particularly effective.



Tested micronutrient combinations composed of:

A: Different vitamins, minerals, trace elements, amino acids and phytochemicals

B: Vitamin C, vitamin E, vitamins B1 - B12, biotin, carnitine, coenzyme Q10, taurine

C: Coenzyme Q10, vitamin E

In conclusion, micronutrients can improve the cellular production of bioenergy in the form of ATP. Again, it is useful to know which combination is particularly effective.

This knowledge may be valuable for athletes and people who do heavy physical work.

Effect of different micronutrient combinations on the protection of cells against free radicals (antioxidative potential)

Exhaust gases, contaminated water, cigarette smoke and other environmental toxins contain aggressive molecules that are capable of causing serious damage to the body's cells. These molecules include, in particular, reactive oxygen species (ROS). Therefore, this process is also referred to as "biological rusting".

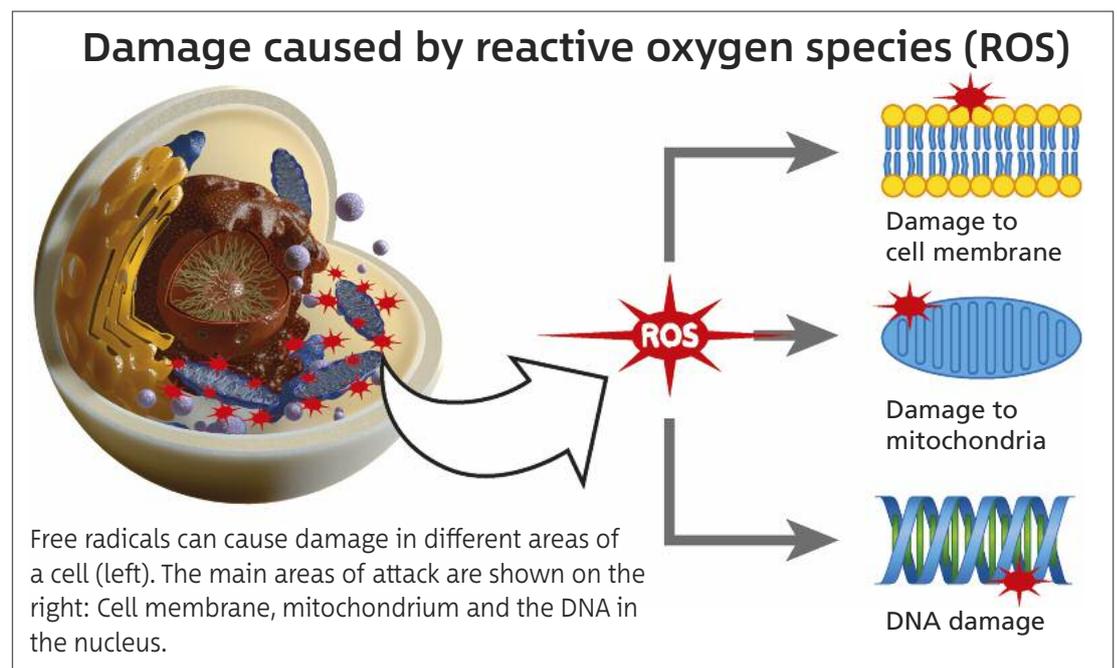
A healthy organism has protective mechanisms to effectively prevent cell and tissue damage caused by ROS. Antioxidants directly react with ROS and neutralize their damaging effect, thereby rendering them harmless. When the amount of free radicals exceeds the amount of antioxidants, this state is called "oxidative stress". It has

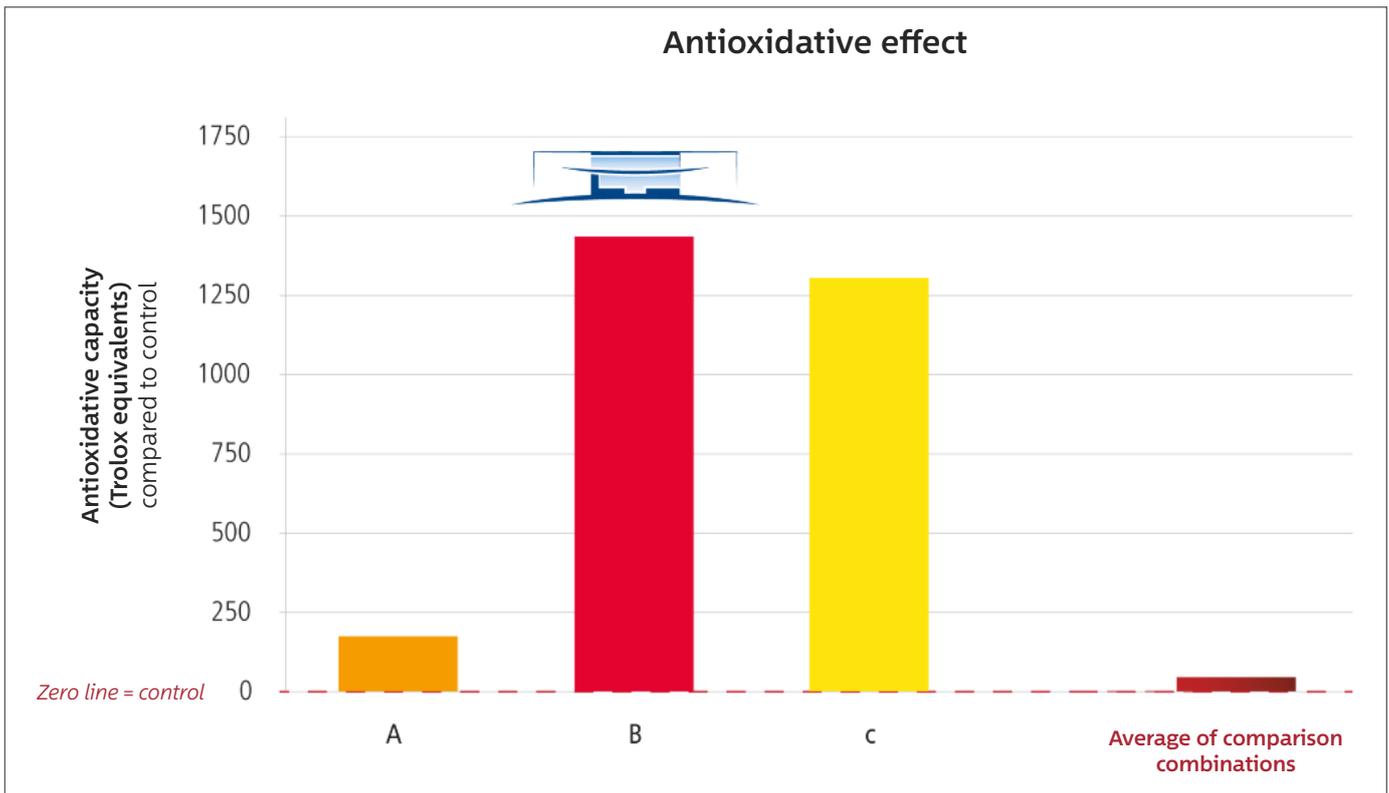
been associated with numerous health conditions and early aging. The most important antioxidants are micronutrients, such as certain vitamins and polyphenols.

Do the tested micronutrient combinations protect against oxidative stress?

The antioxidative capacity of the comparison products was investigated by means of a standardized measurement method (Trolox Equivalent Antioxidant Capacity, TEAC). Results of these tests are presented in so-called "Trolox equivalents".

For the comparison products, an average antioxidative capacity of 40 Trolox equivalent





Tested micronutrient combinations composed of:

A: Different vitamins, minerals, trace elements, amino acids and phytochemicals

B: Vitamin C, lysine, proline, arginine, green tea extract, quercetin, selenium, copper, manganese

C: Vitamin C in the form of ascorbic acid, buffered vitamin C and ascorbyl palmitate, as well as bioflavonoids

lents was measured (red column), indicating very little protection against cell-damaging oxidative stress.

In contrast, the scientifically tested and developed micronutrient combinations were found to have a high antioxidative potential, thus providing a significantly increased protection against free radicals.

This applies particularly to the combinations developed for cell protection. The measured values were 1430 (column B) and 1300 (column C) Trolox equivalents, respectively.

As shown in these tests, product labels or advertisements using the term "antioxidant" should always be questioned.

Without scientific tests, such claims are untenable.

Effect of different micronutrient combinations on the protection of the cells from damage caused by elevated sugar levels (hyperglycaemia)

Another important substance that can cause considerable damage to the body cells is sugar (glucose). This series of scientific tests addressed the question of whether different micronutrient combinations can provide protection against so-called glucose stress.

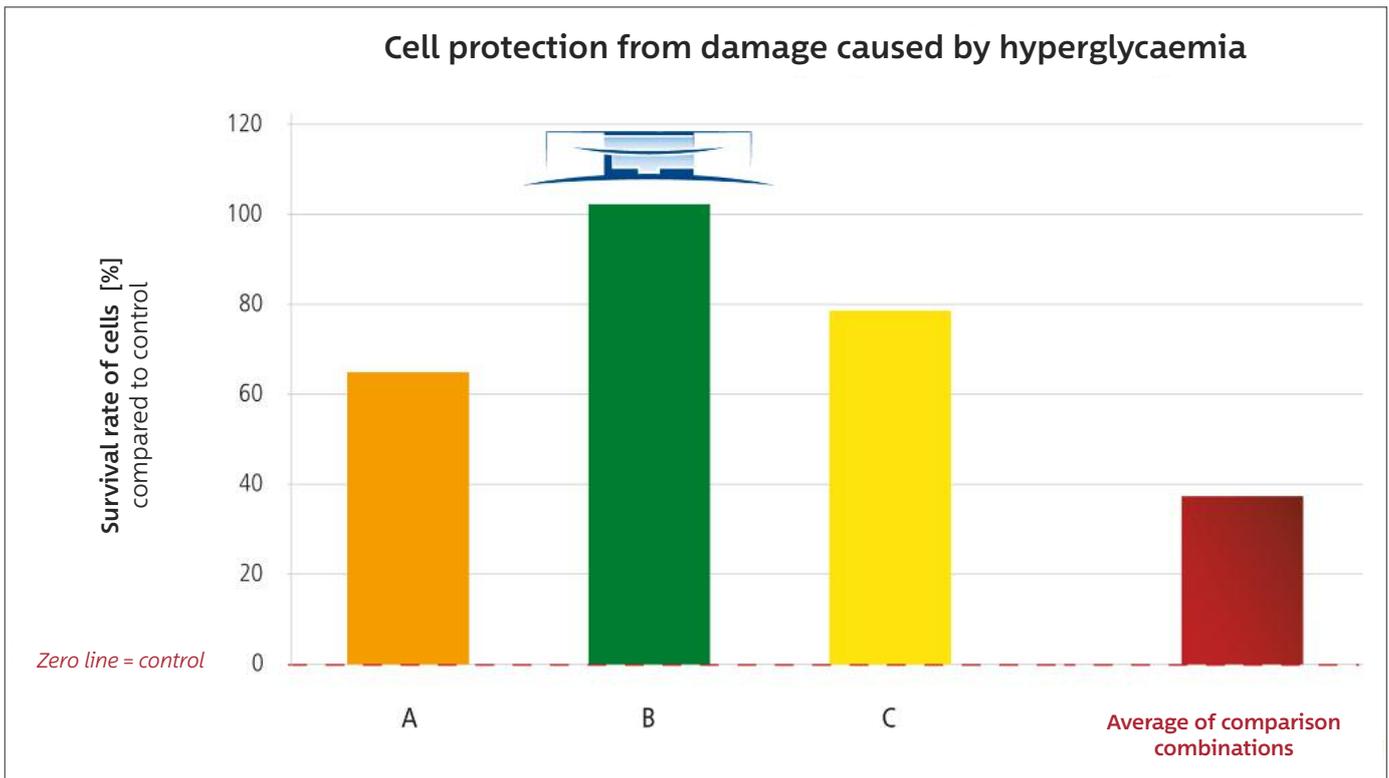
An excess of sugar in the blood "clogs" the surfaces of cells and restricts them in their function. Another mechanism contributing to a restricted cell function is the fact that glucose molecules block the uptake of vitamin C molecules into the cells, thus leading to a deficiency of vitamin C inside the cell. If human cells are exposed to very high glucose levels over a longer period, they die.

This series of tests investigated the protective effects of different micronutrient combinations on human body cells (smooth muscle cells) exposed to elevated glucose (sugar) levels. The survival rate of cells was measured and compared with the control (zero line). The control consisted of cells which were exposed to high sugar concentrations, without the addition of micronutrients.

On average, the comparison combinations showed a certain protective effect. Compared to the control group, the survival rate of the cells was 37% (red column).

Worldwide, millions of people suffer from diabetes, a metabolic disorder characterized by high sugar concentrations in the blood.





Tested micronutrient combinations composed of:

A: Different vitamins, minerals, trace elements, amino acids and phytochemicals

B: Vitamin C, vitamin E, vitamins B1-B12, biotin, magnesium, chromium, folic acid, inositol, choline

C: Vitamin C in the form of ascorbic acid, buffered vitamin C and ascorbyl palmitate, as well as bioflavonoids

In contrast, the scientifically developed and tested micronutrient combinations showed a significant increase in cell protection. This applied in particular to a combination developed specifically for this purpose (column B). This combination was able to protect all cells (100%) and to keep them alive.

With a cell survival rate of almost 80%, a combination of different forms of vitamin C was particularly effective.



What to do?

How users can be assured about the **safety** of their nutritional supplements

A **quality campaign** in the field of food supplements



It is all about your health!

Producing high-quality supplements should be the aspiration of every manufacturer - especially when it comes to health.

Unfortunately, not all vitamin manufacturers feel obliged to fulfil this aspiration. Far too often, a cheap price is the sole sales argument used. In order to offer vitamin products at low prices, the first step is usually to save on research costs. Furthermore, cheaper and therefore low-quality forms of micronutrients are used.

However, progress in the field of vitamin research can only be pursued with products of sufficiently high quality. This is the only way to achieve the high standard that will eventually lead to the acceptance of nutritional supplements among the population.

The necessity for a quality campaign

It is high time to convince millions of users that not all vitamins are alike. Far too many poor quality products are flooding the market.

There is no alternative to initiating a quality campaign. Such a campaign must combine the demand of large sections of the population for natural health with the ethical commitment of manufacturers to offer high quality and effective health products. Providers that are not willing to fulfill this obligation should take themselves off the market.

Essential elements of this quality campaign include:

- **Research:** Collaboration with experts in the field of vitamin research is essential. Any reputable vitamin provider must rec-

ognize the ethical responsibility to cooperate with a research institution.

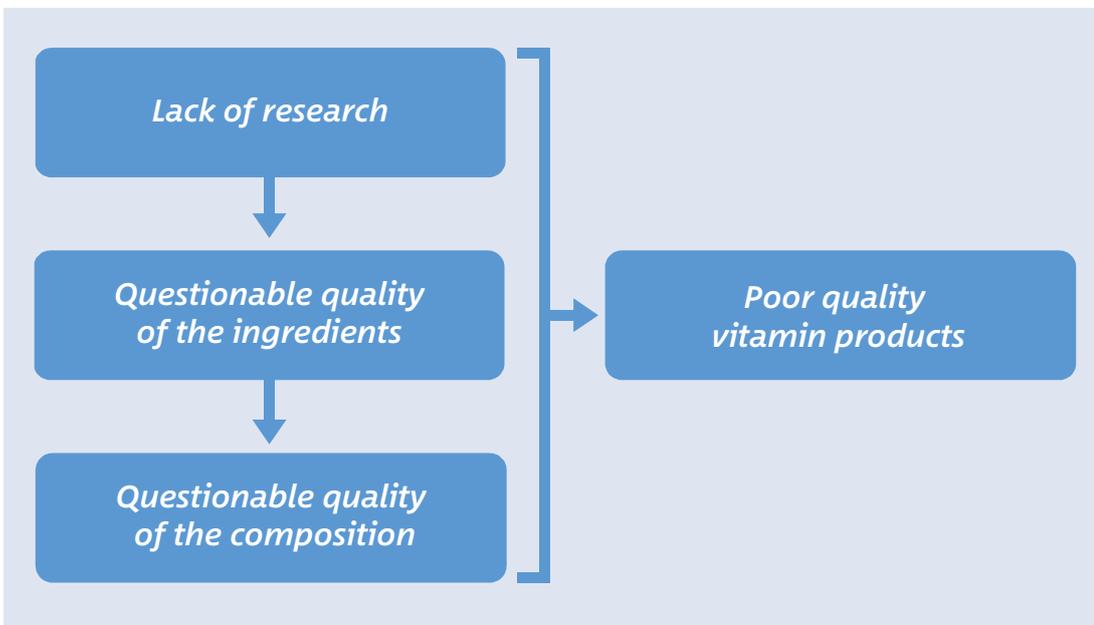
- **Quality of ingredients:** As the present brochure illustrates, high-quality, health-promoting micronutrient combinations provide convincing arguments against cheap pills.
- **Quality in the combination:** Combining as many cheap substances as possible and selling these preparations as "Vitamin A-Z" is simple, but not effective. Without scientific tests, an optimal combination (synergy) of the individual ingredients cannot be guaranteed.

However, the most significant contribution to the success of this quality campaign will be made by millions of supplement users who claim their right to obtain healthy and effective products from manufacturers.

This section of the brochure presents arguments and options for action.



Far too many manufacturers push cheap vitamin products into the market, thus endangering the safety and health of consumers - i.e. you.



Lack of research; questionable quality of ingredients; questionable efficacy of the composition - all these elements endanger the quality of the resulting vitamin product. Our quality campaign for nutritional supplements is a decisive instrument for changing this.

Why are ineffective and harmful products on the market in the first place?

There is a sobering answer to this question:

1. Lack of awareness on behalf of consumers

Millions of people are taking food supplements on a daily basis in the belief that they support their health. However, hardly anyone knows that:

- These products were not tested for their health effects
- The manufacturers' advertising messages are not based on their own studies, but on knowledge from libraries
- Ingredients can be of natural or synthetic origin, thus having fundamentally different effects on human cells

2. Profit maximization of manufacturers

The market for nutritional supplements is currently skyrocketing. This is due to a rapid increase in scientific publications on the health benefits of micronutrients.

As a consequence, more and more "me toos" enter this growing market. Their primary goal is not the health of the people, but to maximisemaximize profits at the expense of unsuspecting consumers.

The increasing number of such "profiteers" in this sector leads to growing competitive pressure. This means that manufacturers attempt to outbid each other with ever lower prices.

Nevertheless, in order to maintain profit margins, these money makers save on the quality of the ingredients. This "profit spiral" usually excludes the use of high-quality ingredients of natural origin. Instead, ingredients of synthetic - and often questionable - origin are used.

The answer to the question "Why are ineffective and potentially harmful food supplements flooding the market?" can be found in the irresponsible greed of producers who exploit the lack of awareness of consumers.

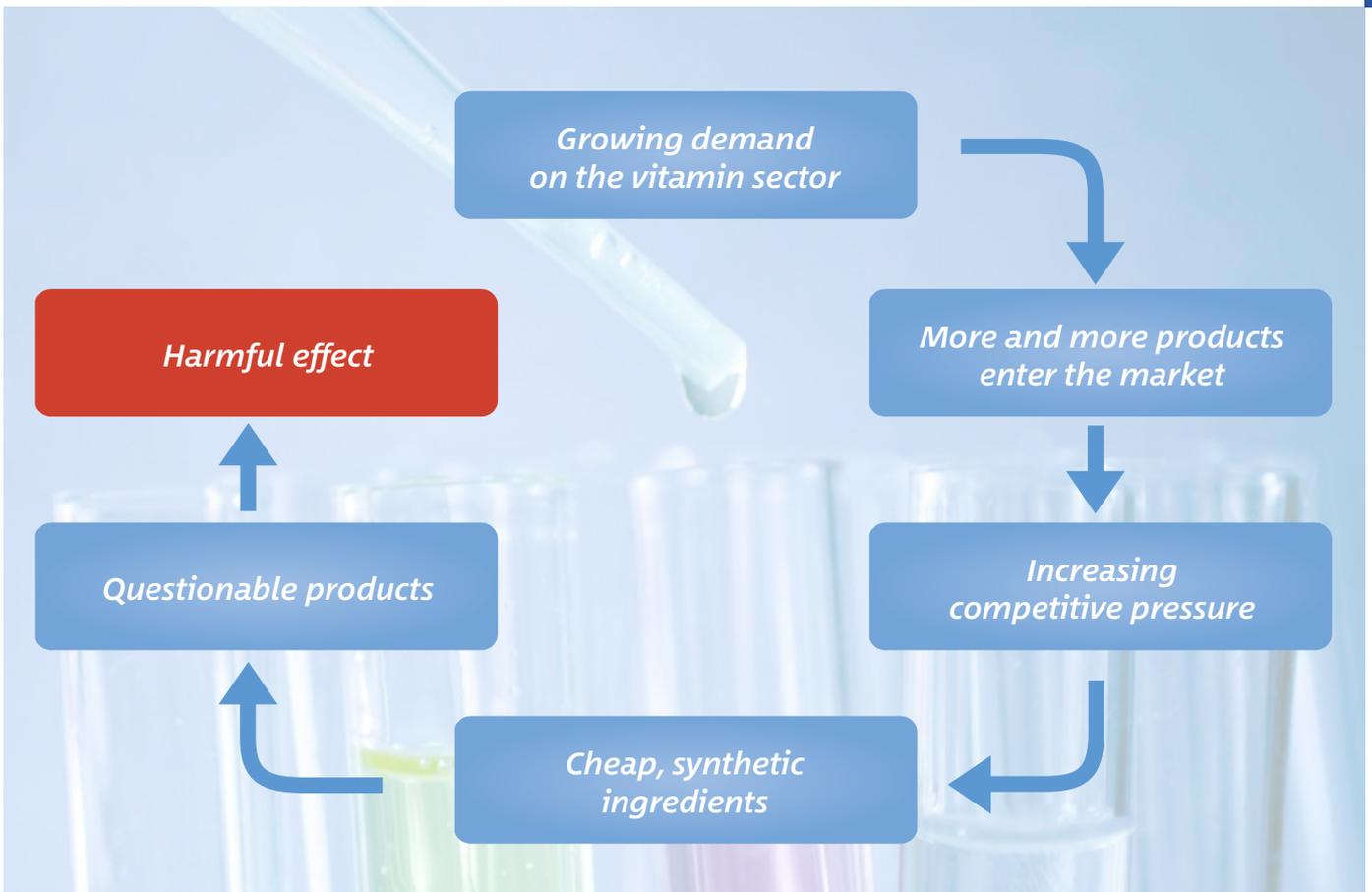
This brochure will put an end to this. For the first time, it documents the potential far-reaching consequences of this development.

Considering that mankind now has the opportunity to control numerous diseases with the help of high-quality micronutrients, the exploitation of consumers is doubly negative. **Poor quality efficacy products discredit the entire food supplements sector.**

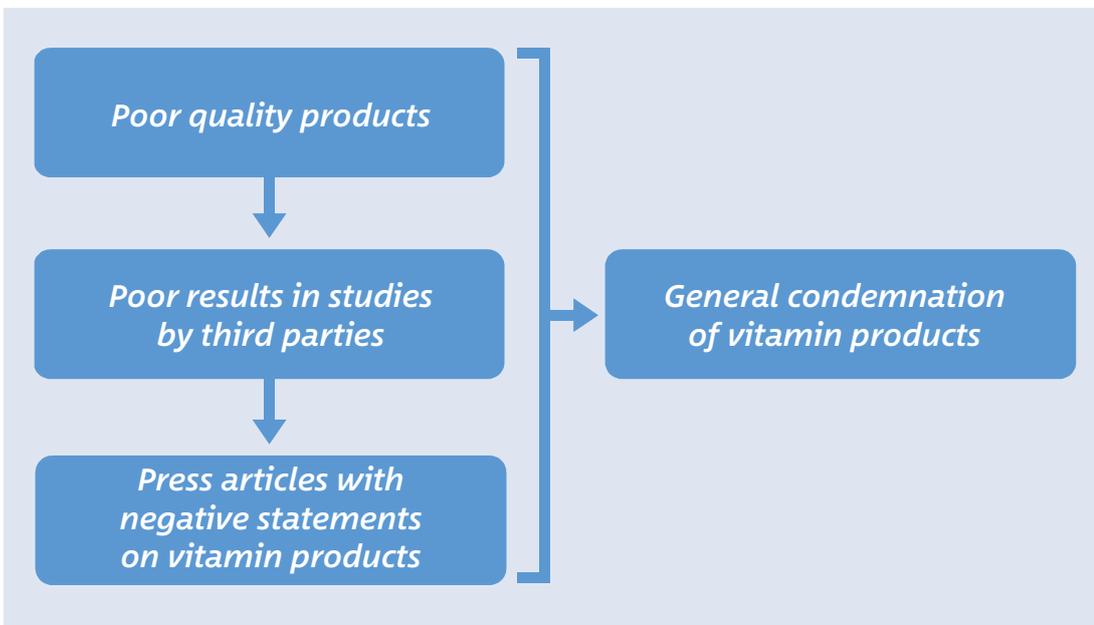
Time and again, studies about the effects of poor quality products are published in the press. Needless to say, since the quality of the tested products is often questionable, the results of these studies are not satisfactory.

Reports of this type are well received by the mass media, which, due to the millions it receives in advertising revenues for drug promotions, has close links to the pharmaceutical industry. Millions of people are thus misled.

All these factors are reason enough to take part in this quality campaign.

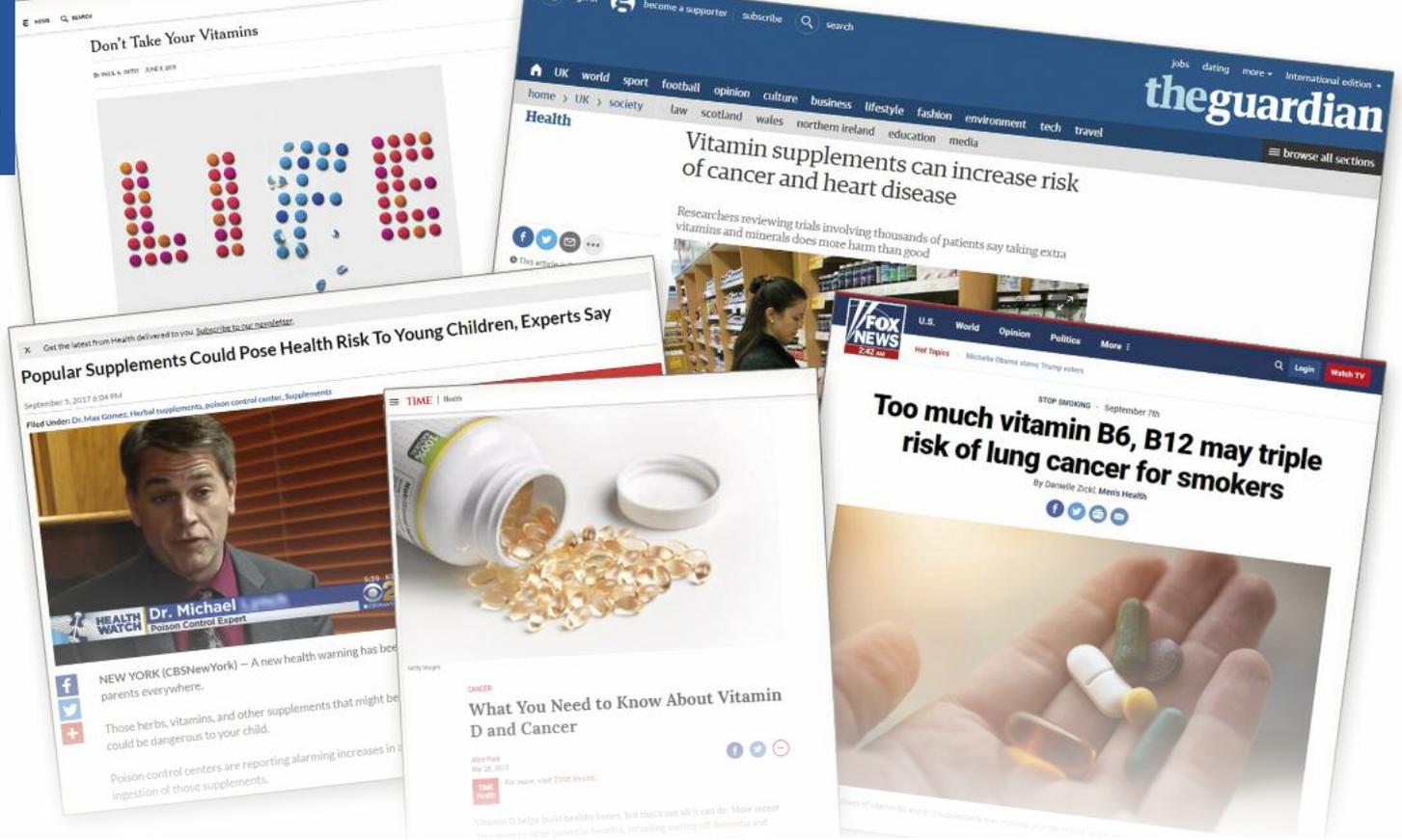


The growing demand for vitamin products triggers a disastrous downward spiral for manufacturers who are not interested in research or the scientific examination of their products.



Results of studies involving poor quality products are picked up by the media and usually passed on without further consideration.

Thus, a whole industry wrongfully falls into disrepute.



The following headlines might sound familiar to you:

"Vitamin supplements can increase risk of cancer and heart disease" – Guardian

"What You Need to Know About Vitamin D and Cancer" – Time

"Don't Take Your Vitamins" – New York Times

There is no getting around these reports. We are upset with them because we see how they generate confusion among people. Almost all the studies to which these negative reports refer were conducted with low-quality preparations or only looked at the effectiveness of individual substances.

However, it now turns out that some of these reports have an element of truth, as shown by this brochure. How else can we explain the fact that widely used micronutrient combinations promote the growth of cancer cells?

Poor quality combinations cannot have the same benefits as combinations that are scientifically developed and tested.

If you stand in front of a supermarket shelf and find multivitamin preparations that cost only a few euros, you should be cautious. It is very unlikely that this vitamin mix consists of high-quality natural raw materials.

As shown by this brochure, the effectiveness of such preparations should be called into question – unless the manufacturer can prove otherwise.



Health is not given to us

There is hardly any aspect of our lives that is as strongly influenced by economic interests as our health.

Unfortunately, the best business can still be done at the expense of sick people. If we are to change this, we have to make public those interest groups that bar the way to preventing disease.

The right to preventive, natural health is not given to us. If we want to reach this goal, we have to do something towards achieving it.

Encouraging manufacturers to systematically test their products for quality and efficacy is an important step in this direction.

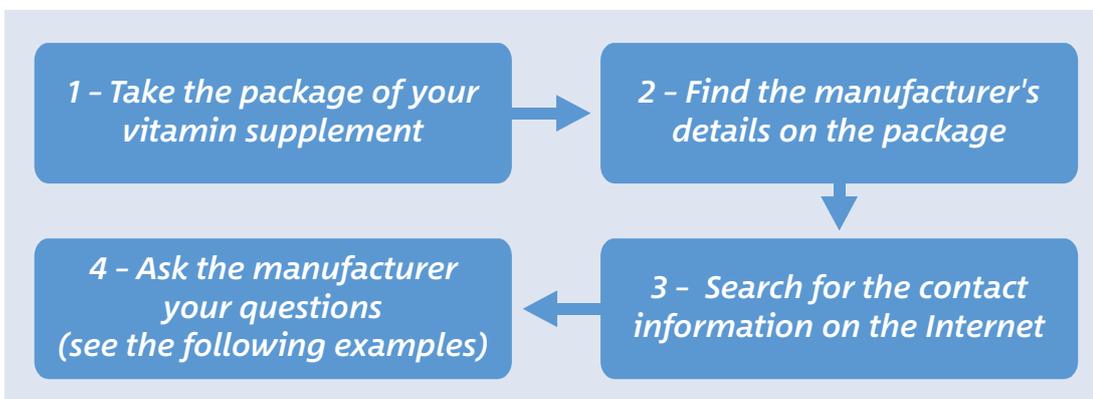
Demand answers to your questions

Research is the prerequisite for quality. This brochure illustrates how many vitamin producers feel about the role of research. The overview of scientific studies published in PubMed shows that, seemingly, these producers are neither interested in conducting their own research nor in determining how their products act in the human body.

But is this knowledge relevant to your own situation? Is the manufacturer that you are entrusting your health to doing *any* research?

Finding the answer to this is very simple: Just ask them! All you need is a product package and an internet connection. You have both at hand?

Great! Then follow these four steps:



There are many ways that you can get your answers. For instance, you can send your enquiry in the conventional way, by writing a letter, or you can simply send an

email. Of course, there are also other options, such as the companies' Facebook pages.

Examples of questions you should put to manufacturers:

1. Do you conduct your own research on the effects of your food supplements? If so, where can I find your studies and results?
2. Do you sponsor research on the effects of your products or your ingredients?
3. Do you use studies that other suppliers have conducted on the composition of your products?

You can also band together with other users and pay a visit to the manufacturers.

Tours of operations or advertising events are a great opportunity to get a direct response from manufacturers. When vita-

min producers are confronted with the aforementioned questions, they are usually evasive in their replies. Below you will find letters from manufacturers that have been sent to us by consumers who have written to them.

Excerpts from letters sent by manufacturers in response to inquiries from concerned customers. None of the respondents were able to present scientific research on their products.

"We do not commission our own studies on dietary supplements."

Sehr geehrter Herr [REDACTED]

vielen Dank für Ihre Anfrage und Ihr Interesse an unseren Produkten.

Unsere Nahrungsergänzung wird aufgrund naturheilkundlicher Expertise und neuesten Forschungsergebnissen entwickelt.

Wir möchten unseren Kunden einen höchstmöglichen Nutzen bieten. Deshalb sichten wir bei der Rohstoffauswahl selbstverständlich Studien, möglichst die dem sog. Goldstandard entsprechen. D.h. doppelblind und placebo-kontrolliert durchgeführt wurden.

Unser Haus lässt durch externe Labors Nährstoffanalysen und für die Kosmetik Tests zur Hautverträglichkeit durchführen. Eigene Studien zu den Nahrungsergänzungen geben wir nicht in Auftrag. Als kleines Mittelstandsunternehmen wäre das viel zu teuer. Ausgewählte Studienergebnisse finden Sie zum Teil in unseren Prospekten und auf unserer Website auf: [REDACTED], beim einzelnen Produkt.

Sehr geehrter Herr [REDACTED]

vielen Dank für Ihr Interesse an unseren Gesundheitsprodukten der Marke [REDACTED]

Bei den Inhaltsstoffen unserer Nahrungsergänzungsmittel handelt es sich um Vitamine, Mineralstoffe und pflanzliche Extrakte deren Wichtigkeit bereits in vielen Studien erforscht und durch wissenschaftliche Arbeiten belegt sind. Daneben sind alle Aussagen, die zu Nahrungsergänzungsmittel auf der Packung gemacht werden können, in der sogenannten Healthclaim Verordnung festgelegt. Diese EU-Verordnung über Nährwert- und gesundheitsbezogene Angaben legt europaweit einheitliche Anforderungen bei der Verwendung dieser Angaben fest. Basis dieser Verordnung war der aktuelle wissenschaftliche Kenntnisstand in Europa, der in sorgfältiger Detailarbeit gesammelt und bewertet wurde. Aus diesem Grund sind weitere Studien für Nahrungsergänzungsmittel nicht notwendig.

Für die Neukonzeption unserer Produkte nutzen wir somit verständlicherweise Studien von Fachgremien und Universitäten, um für uns das passende Produktkonzept auch hinsichtlich Dosierung und Zusammensetzung zu finden. Wir sind immer bemüht, auf dem aktuellen Stand der Wissenschaft zu sein und

Sehr geehrte Frau [REDACTED]

sehr geehrter Herr [REDACTED]

gerne möchten wir Ihnen Ihre Fragen auf diesem Wege beantworten.

Die Themen Qualität und Sicherheit spielen bei der Entwicklung unserer Präparate eine ganz entscheidende Rolle.

Wir achten dabei auch darauf die Zusammensetzung und Dosierung der Inhaltsstoffe auf die jeweiligen Bedürfnisse der Verbraucher auszurichten und orientieren uns an aktuellen Studien und wissenschaftlicher Fachliteratur.

Da in der wissenschaftlichen Literatur für Vitamine und Mineralstoffe sowie Lutein, Omega-3-Fettsäuren und sehr viele weitere Stoffe bereits zahlreiche Studien zur Verwendbarkeit sowie zur Unbedenklichkeit der von uns eingesetzten Verbindungen vorliegen, besteht hier grundsätzlich kein Bedarf für eigene Studien.

"... further studies on food supplements are not necessary."

"..., there is no need for our own studies."

Don't let such whitewashing discourage you! Keep firing questions at manufacturers. The more inquiries they get, the greater will be the pressure they are under to test their products.

Talk to other interested consumers, to benefit from your collective strengths.

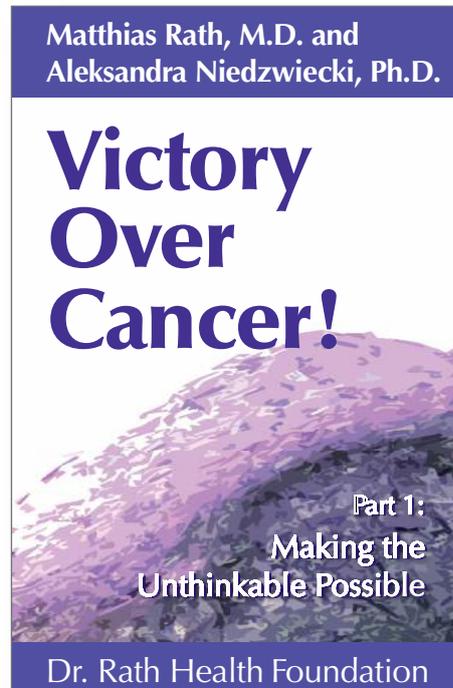
Together you are stronger!

To put it plainly, we can only point to the fact that millions of people are being misled about the benefits of the food supplements they take. If you want things to change, you must become active!

Victory Over Cancer!

Part 1: Making the Unthinkable Possible

"Victory Over Cancer!" documents groundbreaking natural health approaches that have been scientifically shown to block all key mechanisms that make cancer a deadly disease. Through empowering patients to take their own decisions about what is best for their health, the revolutionary Cellular Medicine information contained in this book paves the way towards turning cancer into a manageable disease.



**Matthias Rath, M.D. and
Aleksandra Niedzwiecki, Ph. D.**
200 pages, soft-cover, 2012
Language: English
ISBN: 978-90-76332-76-5
Article no: 1030
Price: 12,90 €

- *"I loved this book! It is so informative and illustrative. This book helps you find hope in using natural supplements."*
- *"This is groundbreaking information."*

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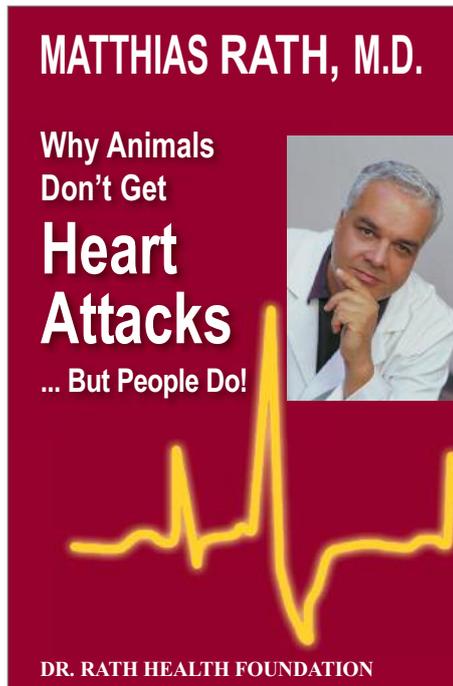
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"Why Animals Don't Get Heart Attacks...But People Do!" summarizes the groundbreaking discoveries of Dr. Matthias Rath, M.D., and explains how his scientific findings will ultimately lead to the eradication of cardiovascular disease.

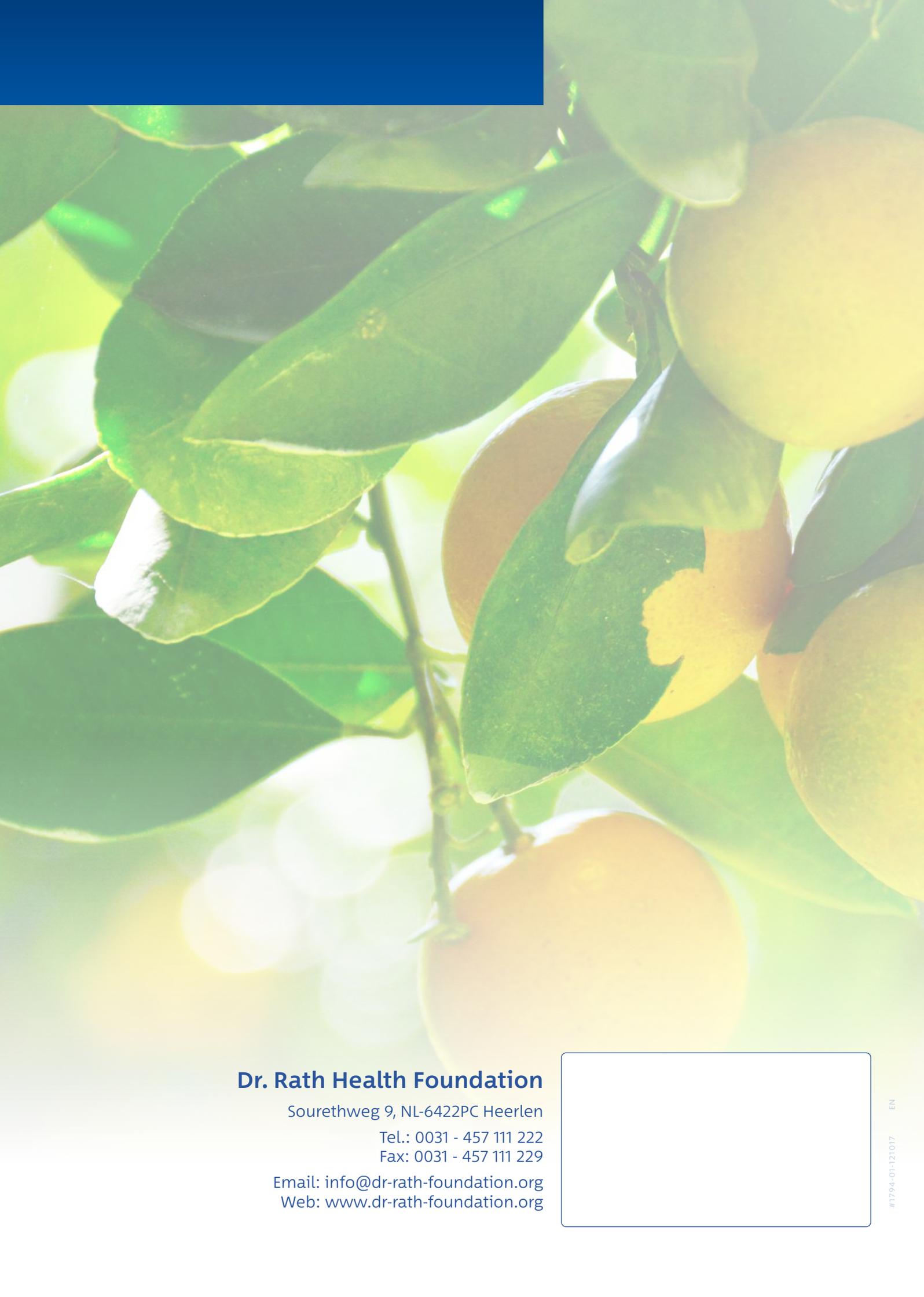


Matthias Rath, M.D.
310 pages, soft-cover, 2015
Language: English
ISBN: 90-76332-03-7
Article no: 1026
Price: 12,90 €

- *"Very interesting. Great overview of the science and supporting studies."*
- *"This book is a wonderful adjunct for people who have been told they have heart disease, hypertension or diabetes."*

Customer reviews on [amazon.com](https://www.amazon.com)

If you would like to help spread this important information, you can request further copies of this brochure at the address on the left.



Dr. Rath Health Foundation

Sourethweg 9, NL-6422PC Heerlen

Tel.: 0031 - 457 111 222

Fax: 0031 - 457 111 229

Email: info@dr-rath-foundation.org

Web: www.dr-rath-foundation.org

