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seecret

LET ME TELL
YOU A SECRET ...



COLLAGEN ANTI-AGING

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Hapro seecret

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|--|--|---|--|--|
| | | Hapro Seecret® - Naturally younger skin from the inside out... 4 | | |
| | | Hapro Seecret® - Eine natürlich jüngere Haut von innen... 8 | | |
| | | Hapro Seecret® - Een natuurlijk jongere huid van binnenuit... 12 | | |
| | | Hapro Seecret® - Une peau naturellement rajeunie de l'intérieur... 16 | | |
| | | Hapro Seecret® - Una piel más joven de forma natural, desde el interior hasta el exterior... 20 | | |
| | | Hapro Seecret® - 内側からナチュラルで若々しいお肌に... 24 | | |
| | | 公司 Hapro Seecret® 胶原蛋白再生美容舱 - 由内而外打造自然年轻态美肌 ... 38 | | |
| | | 公司 Hapro Seecret® 胶原蛋白再生美容舱 - 由内而外打造自然年轻态美肌 ...32 | | |

Hapro Seecret® - Naturally younger skin from the inside out...

Introduction

Congratulations on the purchase of your Hapro Seecret® anti-aging appliance! VDL Hapro B.V. produces high quality products made with care and craftsmanship. The Hapro Seecret® anti-aging appliances meet the same high standards. This new product line has been developed and assembled in accordance with strictest applicable standards and contains carefully selected, high-quality components. Based on scientifically demonstrated principles, Hapro Seecret® has been proven to improve, vitalise and improve the healthy appearance of your skin in a relaxing manner.

Before you begin using the appliance, it is recommended that you first set it up in accordance with the accompanying installation instructions and read this brochure carefully. Among other things this document contains extensive information about the Hapro Seecret® anti-aging concept, its influence on the skin and the use of the appliance. With this information you will enjoy years of pleasure from your Hapro Seecret® anti-aging product.

The Hapro Seecret® anti-aging concept

The skin is one of the most important organs in the human body. By nature, healthy skin has a radiant glow and emanates vitality and energy. This is why it is important to care for it as well as possible. Unfortunately, our skin suffers a great deal every day under the influence of various factors. The sun, chemical substances such as soap, shampoo and cleansing products as well as damage to the skin during activities such as sports do little good for the skin.

Moreover, the skin ages as the years go by, resulting in wrinkles, lines and other blemishes. The skin loses its elasticity and its texture begins to change. And when you are not feeling so well, your skin shows this too.

The Hapro Seecret® anti-aging concept is designed to visibly improve the skin through the use of pure yellow, orange and red (collagen) light. Collagen light penetrates deep beneath the skin's surface and influences the cell activity. This provides extra stimulation to the skin's healing mechanism, generating positive effects:

- A lifting and wrinkle-eliminating effect occurs
- The moisture content of the skin is restored
- The elasticity of the skin is improved
- The skin gains a radiant glow
- The formation of pigment and age spots is reduced and existing blemishes disappear
- Skin damage, such as small cuts, heal more quickly

Naturally you must use collagen light in a responsible manner in order to gain the best possible results. To explain the exact effect of collagen light on the skin, it is important to understand more about the skin and how light works.

Structure of the skin

As mentioned previously, the skin is one of the most important organs in the human body. It is also the largest organ. The skin of an average adult weighs approximately 15 kg and its surface measures around 2 m².

The skin consists of three layers:

- The epidermis (outer layer)
- The dermis (true skin)
- The subcutis (sub-skin fat and connective tissue)

Epidermis

The epidermis or scarf skin is the outermost layer of the skin and consists mainly of corneocytes, which are continuously replaced from the innermost layer of the epidermis. The newly formed corneocytes move continuously outward, toward the surface of the skin, as they are pushed by the never-ending growth of new cells. Once they reached the skin's surface, they die. Even though they are dead, they nevertheless continue to play a very important role. Together, these dead cells form a highly resistant barrier to pathogens. This barrier also protects the skin from drying out. The skin's surface is a very active and renews itself every month. The growth and flaking off of dead skin cells keep each other in check so the skin does not become increasingly thicker.

Dermis

Under the surface lies the dermis or true skin. This layer gives the skin strength and consists of a dense structure of connective tissue. The uppermost layer of the dermis is where we find things such as the sebaceous and sweat glands, hair follicles and nerves. The innermost layer contains two types of protein fibres: collagen and elastin, which form the supporting structure for the skin and are important for maintaining strong, supple skin. The dermis also contains special cells (fibroblasts) that are responsible for the production of collagen. Collagen (the name is derived from the Greek word 'kolla', which means glue) is one of the most important of the body's own proteins. Collagen is also the main structure-building protein in our skin. It can be seen as the glue that holds all the parts of our body together. Elastin provides the skin with its elasticity.

Subcutis

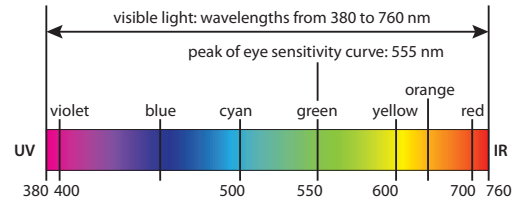
The subcutaneous connective tissue consists mainly of fat. It serves an important function as a heat-insulating layer, energy storage medium and impact-absorbent cushion.

Origin of skin aging

As the skin ages, the production of new cells diminishes, which reduces the number of collagen and elastin proteins. The layers that provide support for our skin are no longer produced in sufficient quantities, which makes the skin 'loose', resulting in wrinkles.

The light

Light is extremely important for the body: it influences our behaviours, moods and skin. Approximately 45% of the light radiated by the sun is the visible light we can detect with our eyes. In addition to this visible light, sunlight also has components we cannot see, which are called ultraviolet



(UV) and infrared (IR). Until now, the effects of sunlight on the human skin have only been partially understood. The negative effects of UV radiation, in particular, receive considerable attention. People also believe that visible light does not have any effect, because its effects are not immediately visible on the skin. Nevertheless, a growing number of scientific investigations over the past 15 years have shown that visible light brings about various photochemical reactions in the skin. Infrared light is known to penetrate the skin deeply where, among other things, it stimulates the circulation. When

investigating the effects of sunlight, it is very important to know which substances (photoreceptors) are responsible for receiving (absorbing) sunlight.

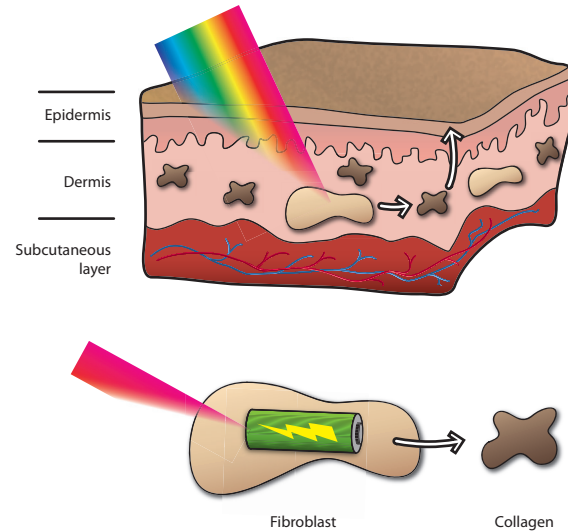
Collagen light falls within the colour spectrum of visible light. This is the bandwidth of light you can see with the naked eye. It spans the range of wavelengths from approximately 380 to 760 nm. collagen light borders the frequency range of infrared light and runs from around 600 to 760 nm.

Effect of collagen light in the skin at cellular level

The uppermost layers of the skin contains a number of photoreceptors, substances that respond under the influence of light. For collagen light, these are probably what are called porphyrins. These photosensitising substances (substances that make us sensitive to sunlight) form an important part of various enzymes, such as cytochromes. One particular enzyme, cytochrome c oxidase, is considered to be a very important receiver of collagen light. Cytochrome c oxidase is a multiprotein complex that forms an essential part of the respiratory chain. The respiratory chain can be found in the mitochondria, which are often referred to as the 'powerhouse of the cell'. Cells require these chains in order to produce and store energy. The enzyme cytochrome c oxidase contains two chemical compounds that are also called haem groups. The haem groups absorb collagen light, which leads to a higher production of energy and reactive oxygen species. The result of the increased production is accelerated growth of the cells, which is beneficial to the condition of the skin.

Effect of collagen light on the production of collagen

Scientists have observed that exposure of the cells to collagen light leads to the increased production of collagen. A scientific study published in 2003 described the effects of collagen light on fibroblasts (the cells responsible for the production of collagen). A low dose of collagen light caused these cells to undergo changes in 111 genes. These genes were divided into ten



categories, based on their function, seven of which were related to the growth and division of the fibroblasts – the processes that are of importance for the healing of wounds and repair of skin aging.

Special lamps have been developed for the Seecret® anti-aging concept that give off a dose of collagen light properly calibrated to optimally penetrate the skin. This causes the fibroblasts to grow and divide. This, in turn, causes the skin produce more collagen and elastin, which ultimately results in young-looking, supple skin with fewer wrinkles. It is no surprise then that scientists confirm the positive effect of the Seecret® anti-aging concept and the lamps specially developed for it.

Exposure to an excessive dose of collagen light, however, can cause the production of reactive oxygen species to increase too much and that, in

turn, can lead to the breakdown of collagen. Establishing the correct dose of collagen light is therefore very important, yet determining the proper dose is far from easy. In the scientific literature one finds studies based on the use of an enormous range of different light sources and biological research material. The low dose of collagen light mentioned earlier (0.88 J/cm²) was enough to produce measurable effects and is based purely on cell research.

Wound healing

Another positive effect of collagen light is the stimulation of wound healing. This positive effect was discovered by NASA around 40 years ago and was developed to stimulate the growth of plants. During the studies, collagen light was also found to stimulate cell repair and therefore the healing of wounds suffered by astronauts. Even in a weightless environment, where cell growth is normally very slow, it was shown that collagen light stimulates the metabolism (of cells) in the muscles, bones, skin and subcutaneous tissue.

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Cosmetics

It is suspected that when certain skin creams are used in combination with collagen light, the anti-aging effect may be intensified. However, there is not yet any evidence to support this.

Relaxation

Besides the fact that you want to use the Seecret® anti-aging system to improve your skin, you also simply want to simply enjoy and relax. The Hapro Seecret® anti-aging product line includes additional features, such as an MP3 connection and an aroma function, to make the treatment complete.