



Galenic: capsules

Anti-aging, vitality and quality of life

Skin appearance • Vitality • Physical performance

Hyaluronic acid (hyaluronan) peroral, 500 to 700 kDa: Key substance for water retention in the skin and joints

Hyaluronic acid is a high molecular weight polysaccharide (glycosaminoglycan). Studies confirm oral availability. Hyaluronic acid has a high water retention capacity. The role of hyaluronic acid is to supply the skin, connective tissue and joints with adequate moisture and powers of resistance. A series of studies by the American Institute for Biosocial and Medical Research points to effects of orally administered hyaluronic acid with a molecular weight of 500 to 700 kDa, which can be absorbed by the human body about as well as injected hyaluronic acid. The skin's hyaluronic acid content declines significantly as part of the aging process, causing it to lose moisture and elasticity. Peroral administration of 100 to 200 mg hyaluronic acid can markedly improve skin hydration, elasticity and strength. The connective tissue as a whole and the joint structures also benefit from the water retention capacity of hyaluronic acid.

Literature: Balogh, Andras Polyak, Domokos Mathe, Reka Kiraly, Juliana Thuroczy, Marian Terez, Gyozo Janoki, Yaoting Ting, Luke R. Bucci and Alexander G. Schauss: Absorption, Uptake and Tissue Affinity of High-Molecular-Weight Hyaluronan after Oral Administration in Rats and Dogs. In: J. Agric. Food Chem., 2008, 56 (22), 10582-10593; Ol: 10.1021/jf8017 Longas MO, Russell CS.; Carbohydr Res. 1987 Jan 15;159(1):127-36. Evidence for structural changes in dermatan sulfate and hyaluronic acid with aging.

MSM (methylsulfonylmethane): organic sulphur donor helps to stimulate collagen synthesis

MSM is a good organic sulphur donor. Sulphur is an important structural component of connective tissue such as cartilage and skin that keeps the connective tissue elastic and taut (through disulphide bonds). In addition, sulphur is important for healthy mucous membranes, strong hair and healthy nails. Sulphur is also vital for the energy metabolism (as a component of coenzyme A), (liver) detoxification

and the formation of sulphur-containing amino acids, antioxidants (glutathione), hormones and enzymes.

MSM is further employed as a supportive remedy in diseases of the musculoskeletal system such as osteoarthritis, rheumatoid arthritis, muscle cramps, muscle pain, (sports) injuries, RSI (repetitive strain injuries), fibromyalgia, tendonitis, bursitis, carpal tunnel syndrome and pain in the lower back area.

MSM increases the permeability of cell membranes. This results in better and faster absorption of nutrients and faster elimination of metabolic waste products and toxic substances (detoxification).

MSM plays a role in the aging processes of tissue structures. The natural content of MSM in body tissues declines with increasing age.

Literature: Richmond VL: Incorporation of methylsulfonylmethane sulfur into guinea pig serum proteins. Life Sci 1986;39(3):263-8. Jacob SW, Appleton J: Chronic pain syndromes. Alternative & Complementary Therapies 2003;9(2):86-88. Jacobs SW, Lawrence RM, Zucker M: The Miracle of MSM. The natural solution for pain. G.P. Putnam's Sons, New York, 1999. Matthew Butawan et al Nutrients 2017, 9(3), 290; doi:10.3390/nu9030290; Review Methylsulfonylmethane: Applications and Safety of a Novel Dietary.

Collagen UC-II: undenatured collagen – catalyst for endogenous collagen synthesis and hyaluronic acid – for skin and joints

Collagen is taken in two different forms, either as collagen hydrolysate or as undenatured type-II collagen (UC-II). With its broad spectrum of connective tissue-building amino acids, in particular L-proline, hydroxyproline and glycine, collagen hydrolysate should be taken in the form of a drink because the quantity required is 10 grams. Collagen UC-II, on the other hand, is an undenatured collagen that is normally taken in a small daily dose of 40 mg. Studies for both collagen types have demonstrated a positive effect on the musculoskeletal system (joints, tendons, ligaments) and skin structure (skin hydration, elasticity and wrinkle reduction). UC-II has proven its effectiveness in degenerative joint diseases in a number of

studies. Taking this collagen type also increases collagen formation and hyaluronic acid formation of the skin, effectively making it an anti-aging substance.

Literature: Type II Collagen-scientific review on usage, dosage, side effects, examine.com. p 13. James P Lungo et al.; J Int Sports Nutr.2013; 10: 48. Published online 2013 Oct 24PMCID: PMC4015808 Undenatured type II collagen (UC-II®) for joint support: a randomized, double-blind, placebo-controlled study in healthy volunteers. UC-II® PubMed. Int Soc Sports Nutr. 2013. Undenatured type II collagen (UC-II®) for joint support: a randomized, double-blind, placebo-controlled study in healthy volunteers. Lugo JP, Salyed ZM, Lau FC, Molina JP, Pakdaman MN, Shamie AN, Udani.

Coenzyme Q10: important energy activator and metabolism regulator

Coenzyme Q10 is among the most important metabolism regulators in our bodies. Its content in organs with a high energy metabolism declines markedly from age 40. It plays a significant role in:

- mitochondrial ATP synthesis and thus energy supply at the cellular level. This has an effect on the functional and physical performance capacity at the organ level. 95% of the body's entire energy is activated by Q10: **energy activator**.
- antioxidative protection both through direct reactions as a redox system and scavenger and by activating antioxidative enzymes (GPX, catalase, SOD): **antioxidant**.
- the reduction of inflammatory processes by inhibiting important inflammatory markers (CRP, IL-&,TNF-α): **anti-inflammatory**.

Good effect on the heart in combination with OPC pine bark extract.

Literature: HP. Friederichsen; Prävention durch Mikronährstoffe OM-Zs.f.Orthomol. Med. 2017;15:14-19;Gröber Uwe; Mikronährstoffe: Beratungsempfehlungen für die Praxis. Wissenschaftliche Verlagsgesellschaft GmbH. ISBN-13: 978-3-8047-22705; Uwe Gröber: Metabolic Tuning statt Doping; ISBN 978-3-7776-1608-7; «FOOD Style»; Effect of Coenzyme Q10 as a Supplement on Wrinkle Reduction; Yutaka Ashida, et al; 2004; Schmelzer C et al.; Functions of coenzyme Q10 in inflammation and gene expression; Biofactors. 2008;32(1-4):179-83.Ravaglia G et al.;Effect of micronutrient status on natural killer cell immune function in healthy freelifving subjects aged >=90 y.; Am J Clin Nutr. 2000 Feb;71(2):590-8. Mizuno K et al.; Antifatigue effects of coenzyme Q10 during physical fatigue.; Nutrition. 2008 Apr;24(4):293-9.

Astaxanthin: most powerful natural antioxidant – performance-enhancing and anti-inflammatory

Improves memory and concentration

NEUROVASCULAR PROTECTION
Decreases oxidation of red blood cells, decreases incidences of ischemic stroke, and improves memory and learning.

EYE FATIGUE RELIEVE
Reduces eye fatigue in subjects suffering from visual display syndrome.

Combats eye fatigue

**Improves skin appearance
Combats skin aging**

SKIN AGING DEFENSE
Prevents UV induced wrinkle formation, skin sagging and age-spots; improves skin elasticity and skin dryness.

IMMUNE SYSTEM BOOSTER
Reduces DNA damage in immune cells and enhances immune response.

Boosts immune system

**Combats metabolic syndrome
Anti-inflammatory**

LIVER HEALTH and METABOLIC SYNDROM
Inhibits progression of fatty liver disease, restores insulin-glucose balance, increases fat burning and decreases inflammatory markers.

CARDIOVASCULAR HEALTH
Fights atherosclerosis by decreasing blood pressure, lipid deposits, lipid peroxidation and vascular inflammation.

Protects cardiovascular system

Protects stomach

LOWERING GASTRIC INFLAMMATION
Reduces *Helicobacter pylori* inflammation, gastric ulceration, indigestion, acid reflux, stomach pain and heartburn.

DIABETES/KIDNEYS
Reduces glucose toxicity and kidney inflammation; improves pancreatic function, insulin resistance and insulin sensitivity.

**Combats insulin resistance
Fights «slow inflammation»**

Improves endurance and physical performance

MUSCLE RESILIENCE
Enhances power output, endurance and recovery after exercise; prevents muscle damage and muscle atrophy.

FERTILITY
Improves sperm parameters and fertility.

Improves fertility

Improves microcirculation

CAPILLARY CIRCULATION
Improves blood flow and capillary integrity; reduces blood cell oxidation and risk of thrombosis.

Eiji Yamashita, Astaxanthin as a Medical Food; Functional Foods in Health and Disease 2013; 3(7): 254-258

Astaxanthin: (natural carotenoid) – performance-enhancing and anti-inflammatory

Effective natural antioxidant employed to treat a wide range of aging-related degenerative diseases caused by oxidative stress or inflammatory processes. They include arteriosclerosis, cardiovascular diseases, degenerative eye, skin and brain diseases and rheumatism. The dose used in the many studies was generally in the range of 2 to 6 mg.

Literature: Satoh, A., Tsuji, S., Okada, Y., Murakmi, N., Urami, M., Nakagawa, K., Ishikura, M., Katagiri, M., Koga, Y., Shirasawa, T. (2009) «Preliminary Clinical Evaluation of Toxicity and Efficacy of a New Astaxanthin-rich Haematococcus pluvialis Extract.» Journal of Clinical Biochemistry and Nutrition, 2009;44(3):280-4. Nakagawa, K., Kiko, T., Miyazawa, T., Carpennero Burdeos, G., Kimura, F., Satoh, A., Miyazawa, T. (2011) «Antioxidant effect of Astaxanthin on phospholipid peroxidation in human erythrocytes.» British Journal of Nutrition, 2011: Jan 31:1-9. Liu, X., Osawa T. (2009) «Astaxanthin Protects Neuronal Cells against Oxidative Damage and is a Potent Candidate for Brain Food.» Forum Nutr. Basel, Karger, 2009, vol 61, pp 129-135.

OPC pine bark extract (Pinus pinaster): anti-aging for the skin, blood vessels, brain, heart and eyes

Pinus pinaster pine bark extracts have a high content of antioxidative oligomeric proanthocyanidins (OPCs), which are classified as polyphenols. Over 300 studies document a wide

area of application ranging from allergies to diabetes, erectile dysfunction, decreasing memory and menopausal complaints. A typical natural anti-aging substance with diverse beneficial effects.

Anti-aging, healthy skin, reduction of age spots and anti-wrinkling: OPC pine bark extract has four mechanisms with a positive effect on **skin health**:

1. It improves circulation in the fine skin capillaries. This allows better penetration of micronutrients into the skin.
2. It stimulates the synthesis of collagen (+ 41 %) and hyaluronic acid (+ 44 %) while improving hydration (+ 21 %) and elasticity (+ 25 %). Newly formed elastin and collagen fibres are protected from destruction by oxidative stress.
3. Pine bark extract prevents excessive melanin formation and reduces age spots.
4. OPCs have an anti-inflammatory effect.

Use of OPC pine bark extract to improve **cognitive functions and memory or mental capacity** in old age. A well-functioning vascular and nervous system is a fundamental requirement for a healthy life at any age. Studies show that after taking OPC pine bark extract for 12 months, the cognitive abilities of baby-boomers had improved as follows: cognitive abilities (+ 35,2 %), concentration (+ 41,2 %), mental capacity (+ 33 %), attention span (+ 37,7 %), memory (+ 37,3 %), executive functions (+ 50,9 %), mood (+ 55,8 %).

Literature: Yannick Piriou et al., Skin-lightening and anti-ageing effect of a food supplement containing Pinus pinaster extract: September 2014, Volume 13, Issue 3, pp 123–131 Fitzpatrick et al. Endothelium-dependent vascular effects of Pycnogenol®. J Cardiovas Pharmacol 32: 509-515, 1998 und auch: Belcaro G et al. Venous ulcers: microcirculatory improvement and faster healing with local use of Pycnogenol®. Angiology 56: 699-705, 2005 19. Yasumuro M et al. Inhibition of melanogenesis by pine (Pinus pinaster) bark extract containing procyanidins. Ryan J, Croft K, Mori T, et al. An examination of the effects of the antioxidant Pycnogenol® on cognitive performance, serum lipid profile, endocrinological and oxidative stress biomarkers in an elderly population. J Psychopharmacol 22(5): 553-562, 2008.

Other adjuvant vital substances with a synergistic effect in combination with the above-mentioned substances

Antioxidative:
vitamins C and E, zinc and selenium
Supporting the formation of connective tissue:
silicon, manganese, biotin
Boosting the immune system:
vitamin D

Further information
Vita Health Care AG
Industriestrasse 37
CH-3178 Böisingen
Tel. +41 31 748 00 00
Fax +41 31 748 00 04
info@vita-healthcare.ch
www.vita-healthcare.ch