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Omega-CH-Activator®

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Description

Omega-CH-Activator® is a mixture of amino acid, free radical scavengers and peptides, entirely of plant or synthetic origin. A specific tripeptide resembles a peptide sequence of collagen and is responsible for the superoxide dismutase activity.
Since radicals are known as one of the major cause for aging, Omega-CH-Activator® contains a number of radical scavengers and quenchers, which exhibit special protection against radicals in the aqueous part of the tissue and the cells.
Omega-CH-Activator® has a remarkable efficacy as moisturizer. Beside it activates the metabolism of cells, e.g. the respiratory oxygen consumption in the cell's mitochondria and consequently increases the production of intracellular adenosine triphosphate which constitutes the biochemical energy or 'fuel' for a large number of vital cell functions, such as cell division, synthesis of proteins and cell locomotion.
Copper tripeptide is a multifunctional component, which is naturally present in the body (signal and carrier peptide) and is responisble for stimulation of collagen synthesis, anti-inflammatory actions, accelerated wound healing and tissue repair.
The name is coming from the last letter in the Greek alphabet, just the best you can do for your skin!

Preservatives

Nipaginester.....0.1 %
Rokonsal MEP.....0.22 %

Stabilizers

none

Appearance

clear, slight yellow solution

INCI

Aqua, Panthenol, Glycerin, Glycine, Sorbitol, Hydrolyzed Soy Protein, Bis(Tripeptide-1) Copper Acetate

Registration

	CAS-No.	EINECS-No.
Aqua	7732-18-5	231-791-2
Panthenol	81-13-0	201-327-3
Glycerin	56-81-5	200-289-5
Glycine	56-40-6	200-272-2
Sorbitol	50-70-4	200-061-5
Hydrolyzed Soy Protein	68607-88-5	271-770-5
Bis(Tripeptide-1) Copper Acetate	130120-57-9	open

Omega-CH-Activator®

Efficacy

- scavenger of oxygen radicals and hydroxyl radicals
- mimics superoxide-dismutase activity
- stimulation of oxygen consumption/cell activity
- increases the biosynthesis of dermal collagen
- reduction of fine lines and wrinkles
- increase of skin density, thickness and re-epithelialization
- skin remodeling: effective for example against scars and stretch marks

The idea behind the development of Omega-CH-Activator® was to have a non animal derived collagen:
- to have present the same amino acids with their efficacy
- to have them in the same concentration like in collagen
- but to have no animal derived product.

Obviously this new product has a different spectrum of effect, which is shown in table 1.

Efficacy	Collagen	Omega-CH-Activator®	Reference
Moisturizer	++	+	
Stimulation Metabolic Activity	-	++	1
Buffer Capacity	+	++	
Stimulation growth of Keratincytes	-	+	2,3
Stimulation of Collagen-synthesis of Fibroblasts	-	++	4,5
Radical Scavenger/Quencher	-	++	6,7
Superoxide-Dismutase-Action	-	++	8,9
Penetration	-	++	
Denaturation at 30-37°C	++	-	

Table 1 Comparison of the Efficacy of Collagen and Omega-CH-Activator®

We have tested the radical scavenging efficacy of Omega-CH-Activator® with its activity against Hydroxyl radicals. As shown in figure 1 you can see that Hydroxyl radicals are the most aggressive ones, which are also present in human skin. It is very well known that radicals are one of the reasons for photo aging of skin. Radicals are damaging cells and elastin, degrading collagen and Hyaluronic acid; leading to a decreased elasticity of skin with an increased number of wrinkles.

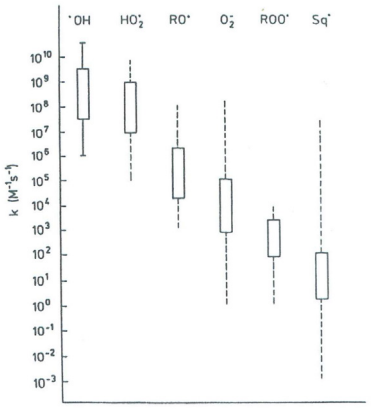


Figure 1 Reactivity of Oxygen radicals

We measured the scavenging efficacy of Omega-CH-Activator® in vitro, by prevention of degradation of Hyaluronic acid in solution. The enzyme system Xanthin/Xanthinoxidase is producing very quickly OH-Radicals. When added to Hyaluronic acid solution, the viscosity of the solution is decreasing due to the degradation of the polymer by the radicals. As you can see in figure 2, the degradation was inhibited by 55 % with an addition of 0,8 % of Omega-CH-Activator®. Product X tested is a common commercially available antioxidant.

Omega-CH-Activator®

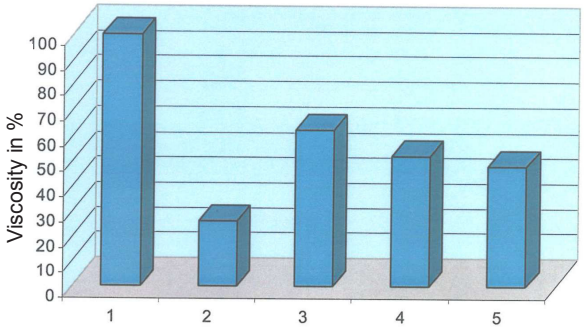
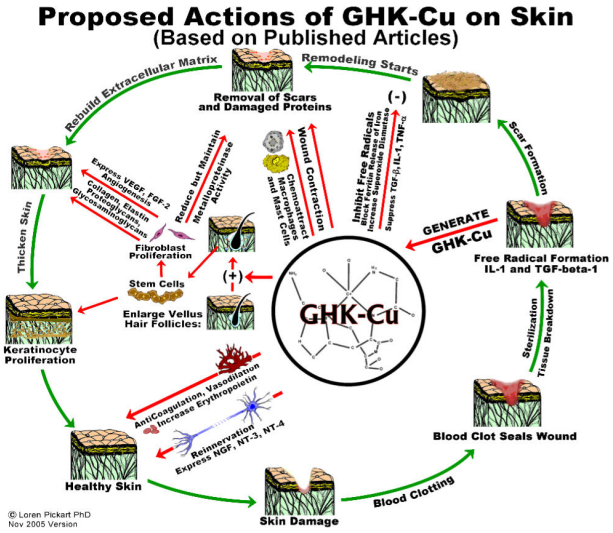


Figure 2 Enzyme: Xanthinoxidase / Xanthin
HA: Hyaluronic Acid

1. HA without enzyme
2. HA with enzyme
3. HA with enzyme + 0.8 % Omega-CH-Activator®
4. HA with enzyme + 0.8 % product X

The data show that with a concentration of only 0,8 % of Omega-CH-Activator® a good protection of the skin against environmental impact is possible.

The copper tripeptide GHK-Cu is another important component of Omega-CHS-Activator. In a randomized, double blind, placebo-controlled study of 67 volunteers, GHK-Cu and a placebo were applied twice daily for 12 weeks on facial skin. GHK-Cu improved skin laxity, clarity and appearance; reduced fine lines, coarse wrinkles and mottled hyperpigmentation; and increased skin density and thickness.
Numerous other studies are available in literature for GHK-Cu. Loren Pickart has suggested the following influence of GHK-Cu on skin renewal cycle.



Omega-CH-Activator® is an ideal Anti-Ageing active ingredient, protecting the skin during the day against environmental impact and regenerating the skin due to multifunctional efficacy in the night.

Characteristics

water content.....48 - 55 %
density at 20°C.....1.08 - 1.15 g/ml
pH.....6.0 - 7.0
nitrogen.....2.1 - 2.4 %
amino acids.....4.8 %

Application

Omega-CH-Activator® is suitable for use in high quality cosmetic products like facial creams, facial masks, ampoules, body lotions, after-sun lotions, and after shave products.

Omega-CH-Activator®

Incorporation

Omega-CH-Activator® is fully soluble in water. It should be blended into the water phase at max. 50°C.

Application concentration

0.8 - 5 % day cream
0.8 - 5 % night cream
0.8 - 5 % masks

The concentration of GHK-Cu in Omega-CH-Activator® was chosen to match the concentrations of studies, when using 2 - 5 % of Omega-CH-Activator®. For protection of the skin against radicals a concentration of 0.8 % might be sufficient, but higher concentrations would mean a higher scavenging efficacy.
0.8 - 5 % for all applications

Toxicology

Omega-CH-Activator® has been tested adequately with regard to its toxicology, please see separately available report.
Mutagenicity (Ames-Test):
Omega-CH-Activator® shows no negative results in the Salmonella Typhimurium Reverse Mutation Assay.
Photo-allergic and photo-toxic effects:
UVA exposed photo patch test with the product shows no photo-allergic or photo-toxic effects.

Storage and Shelf life

Omega-CH-Activator® should be stored in dark at 10°C - 20°C. Shelf life is at least two years in closed original containers.

References

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PD_3001_e06_L
12.06.2014/sb

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