

aldenine®

Molecular innovation that actively prevents aging

**The first Anti-RCS
active in cosmetics**



Description

GHK tripeptide stabilised within the tertiary structure of the vegetal protein, is able to detoxify the skin from the noxious Reactive Carbonyl Species (RCS) and protects the skin from photoaging.

Appearance

Translucent solution containing 0.1% Tripeptide-1 (GHK).

INCI

Water (Aqua), Hydrolyzed Wheat Protein, Hydrolyzed Soy Protein, Xanthan Gum, Tripeptide-1.

Please contact us for information on the preservative system.

Science

aldenine® is the first cosmetic active ingredient that is able to capture noxious RCS, avoiding the necrosis of the keratinocytes and the loss of collagen elasticity. At the same time it protects the skin from DNA damage induced by UV radiation.

**Protects DNA from
UVA-induced damage**

**Detoxifies
cutaneous cells**

Properties

Prevention and protection of the skin from extrinsic and intrinsic agents which cause premature aging.

Applications

aldenine® can be incorporated in daily cosmetic formulations where prevention of photoaging is desired, improving simultaneously the elasticity and firmness of the skin. Also suitable for sun care products.

Dosage

2-5 %

Solubility

Water soluble.



 **Lipotec**

aldenine® is a registered trademark of Lipotec S.A.

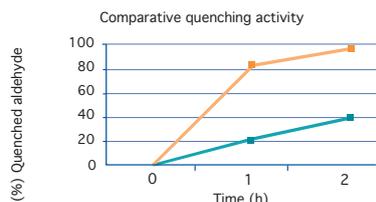
We research for you

www.lipotec.com

In vitro efficacy

Relative capture of RCS

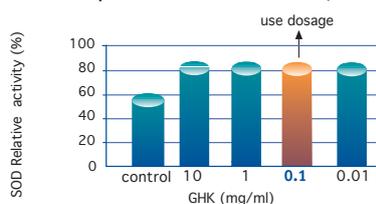
Evaluation of the quenching activity of GHK versus 4-Hydroxynonenal (HNE) and Acrolein (ACR)



The quenching activity of GHK is dose-dependent.

Glycation inhibitory activity of GHK

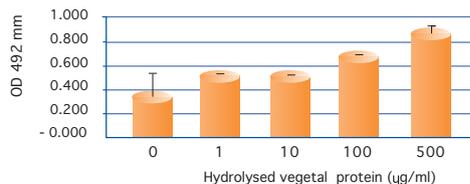
Study of the inactivation of Superoxide Dismutase (SOD)



The inactivation of SOD by its reaction with fructose is used as a model of glycation.

Synthesis of Collagen III

An ELISA test with monoclonal antibodies was tested in Human Dermal Fibroblasts.



The increase in Collagen III can be seen even after 24 hours but a dose dependent result is obtained after 7 days.

Cellular Detoxification

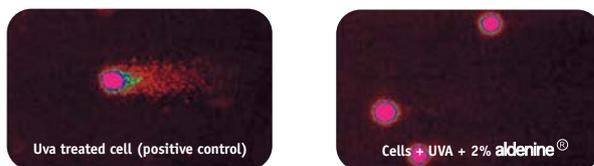
Keratinocytes were irradiated with a low UVB dose (50 mJ/cm²) in order to evaluate the quenching activity of GHK.



Keratinocytes detoxify endogenously-formed HNE by forming adducts with GSH (glutathione), the skin's natural antioxidant. However, when submitted to UVB, keratinocytes are depleted of GSH, they can no longer detoxify from HNE and they die.

DNA Protection

The DNA protection was tested in primary cultures of human melanocytes using the alkaline comet assay.



aldenine® showed to have an internal photoprotection capacity against UVA light.

RCS are captured efficiently by GHK

GHK forms adducts with HNE, the cells are detoxified and remain healthy.

Glycation inhibitory effect

Avoids the formation of Advanced Glycation End-products (AGEs), which are effective indicators of protein damage.

300% Increase of Collagen III synthesis

Collagen III is characteristic of youthful skin, and its increase provides a healthy skin.

Detoxifies cutaneous cells

When the skin is exposed to the sunlight, the cells need GHK to quench HNE and other noxious RCS.

97% DNA Protection

Protects skin cells from UVA-induced DNA damage.