

# SilDerm™

## Clinical Summary

Beauty through Science

### Scientific Review of SilDerm™ -Celfix™ Anti-Ageing Range

#### Introduction:

The growing popularity of staying outdoors and holidays in the sun (due to increased leisure time has made it more and more important to study the molecular and cellular effects that ultraviolet radiation exposure to the sun exerts on human skin .

Current Anti-Ageing work has been focused on recent observations that the induction of DNA damage by ultra-violet-B (UVB) radiation (290–320nm) is detrimental to human health and to the aesthetic look of the skin. This DNA damage by UV rays leads to early damage to the skin and produces the resultant fine lines, wrinkles, and crow's feet etc. that are the main facial challenges that consumers would like treated.

DNA in the skin is particularly susceptible to UV ray damage. While the skins own melanin (and added sunscreen) reflect or absorb a certain amount of light, enough solar radiation inevitably gets through to the cell's nucleus to directly damage the DNA and produce free radicals, which alter the genetic code.

The skin is far from defenceless. There is a sizeable arsenal of DNA repair enzymes, each coded through a different gene, that spring into action when the cells begin to become damaged. When the skin becomes damaged by the UV rays there is a standard repair pathway, commonly known as nucleotide excision.

This excision process recognises the damaged strands and snips them out, then polymerases fill in the gap using the opposite strand as a template to guide the correction.

All in all, in the 24-hour period following sunburn this process repairs about HALF the DNA damage sustained by the skin. This is not enough, unrepaired DNA damage can wreak havoc on a cell and even a single damaged rung out of the human genome's three billion bases can potentially derail its genetic program. Critical damage that overwhelms a cell is likely to send it into a programmed suicide called apoptosis. Apoptosis is a form of cell death necessary to make way for new cells and to remove cells who's DNA has been damaged to the point at which cancerous change is liable to occur.

Over a period of years, the resultant DNA damage from exposure to the sun can result in a speeding up of the ageing process of the skin. Modern treatment has been focussed on the repair and regeneration of DNA in the top layer of the skin using photosensitive enzymes.

Topically applied DNA repair enzymes encapsulated in pH sensitive liposomes can be delivered to photo-damaged epidermal cells. This will help boost the body's own DNA repair mechanism.



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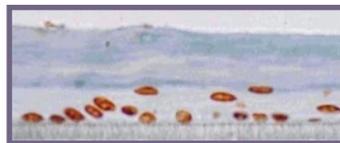
Beauty through Science

### SilDerm™ -Celfix™ Anti-Ageing

The new Anti-Ageing regime from SilDerm™ contains a combination of photosensitive enzymes that help the body's own repair system to develop new skin cells which replace the old damaged cells. SilDerm™- Celfix™ contains **three enzymes** that have been proven to help repair damaged skin.

1

***Micrococcus luteus***. Liposome delivery of this enzyme recognizes cellular UV damage and accelerates the skin repair and recovery process.



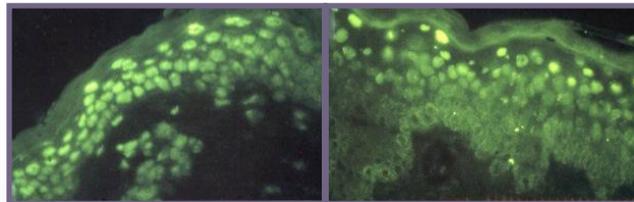
Before Treatment



Skin repair 6 hours after treatment with enzymes.

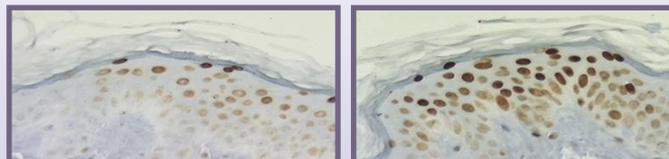
2

***Anacystis nidulans*** is a light sensitive enzyme sourced from plankton and algae that adheres directly to the damaged DNA and channels energy that it absorbs from the sunlight to separate and then restore the fused rungs. About 20 minutes of sunshine or an hour of indoor light are sufficient to activate this photolyase enzyme and help clear the DNA of UV damage.



3

***Arabidopsis thaliana***, also known as OGG1, is a second endonuclease repair enzyme found in the mustard plant. It targets both the nucleus and the energy-making mitochondria of the cell. OGG1 seeks out a common type of free radical damage to DNA and helps the body's natural process by initiating the cellular repair process. This enzyme repairs oxidative damage to DNA, with 90% elimination in 2 hours.



### Other ingredients in SilDerm™ -Celfix™ are:

**Hyaluronic Acid (HA)** has the ability to retain 1000 times its weight in water, which will contribute to the skin's appearance.

**Evodia Rutaecarpa Fruit Extract** is derived from the Chinese Evodia plant and has been proven to calm and soothe irritated skin.

**L-ergothioneine** is a powerful antioxidant that absorbs free radical chain initiators and inhibits excessive oxygenation triggered by environmental exposure.

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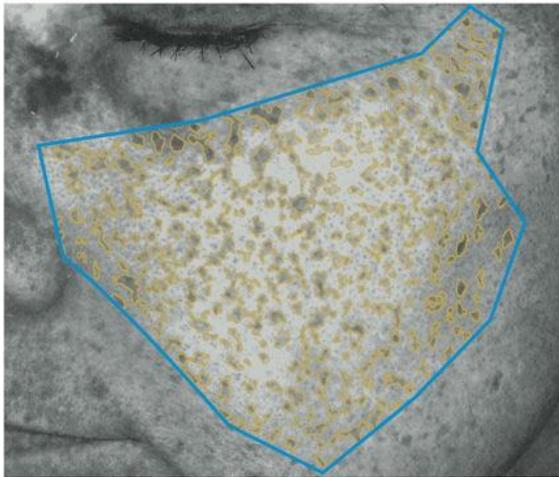
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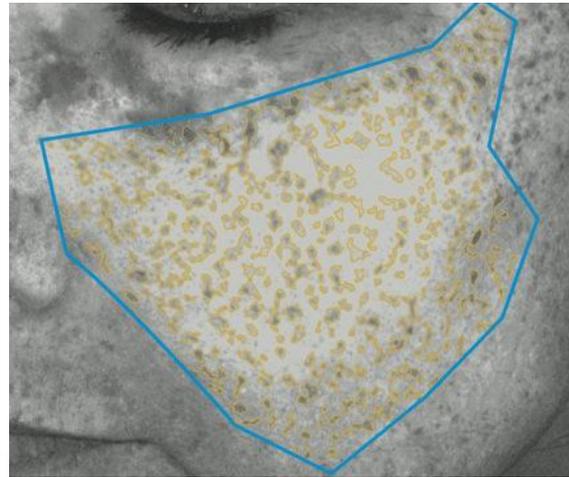
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### Evidence for SilDerm™ -Celfix™

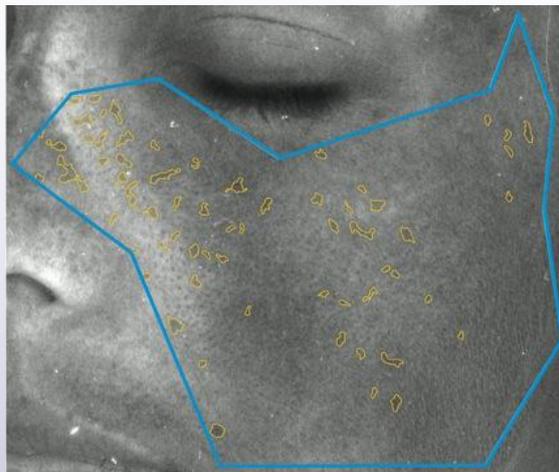
The new Anti-Ageing regime from SilDerm™ contains unique enzymes that have been proven to improve the effects of sun damage on skin. The enzymes are in sufficient concentration that allows the skin to improve by over **70% over a 12 week period**. The study was conducted using the VISIA Complexion Analysis System, which quantitatively measures the change in age spots over a period of time for patients using SilDerm™- Celfix™ Anti-Ageing Range.\*



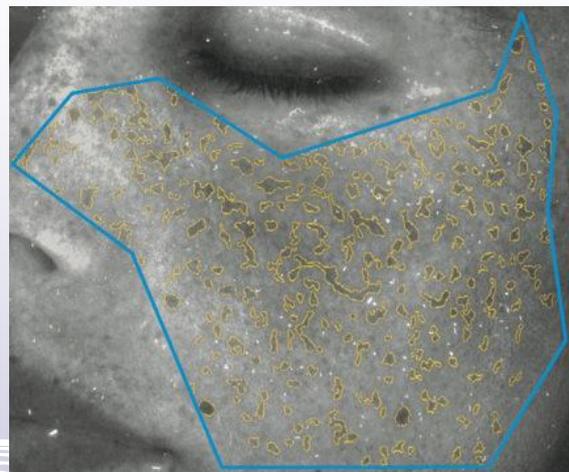
Before Treatment



20% reduction in sun spots in 4 weeks



After Treatment



70% reduction in sun spots in 12 weeks

\* Coldiron, B. M. (1992) J. Am. Acad. Dermatol. 27, 653-662.

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### SilDerm™- Celfix™ Anti-Ageing Range: A Simple 3 Step System

#### Youth Recovery™ - Facial Serum

Contains three enzymes (*Micrococcus lutes*, *Arabidopsis thaliana*, *Anacystis nidulans*). All have been proven to improve the damage done by the sun. Over 12 weeks there should be a more than 70% reduction in sun spots. Apply morning and evening for at least three months.



#### Ceramide Renewal™ - Nourishing Cream

This hydrating cream functions as a protective shield strengthening the skin's barrier from the environment. It contains 1 (one) DNA Repair Enzyme that attacks DNA damage caused by UV rays. Apply morning and evening for ongoing protection



#### iQuad Infusion™ - Total Eye Complex

Contains a combination of peptides that have been shown to provide eye protection and improvement by reducing wrinkles by 45% in 8 weeks and reduce dark circles by 19% over 8 weeks. Apply morning and evening for ongoing protection.



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or call our Customer Care Line 0844 544 9969