Repair Activator™

A natural Protector against UV-induced Skin Damage

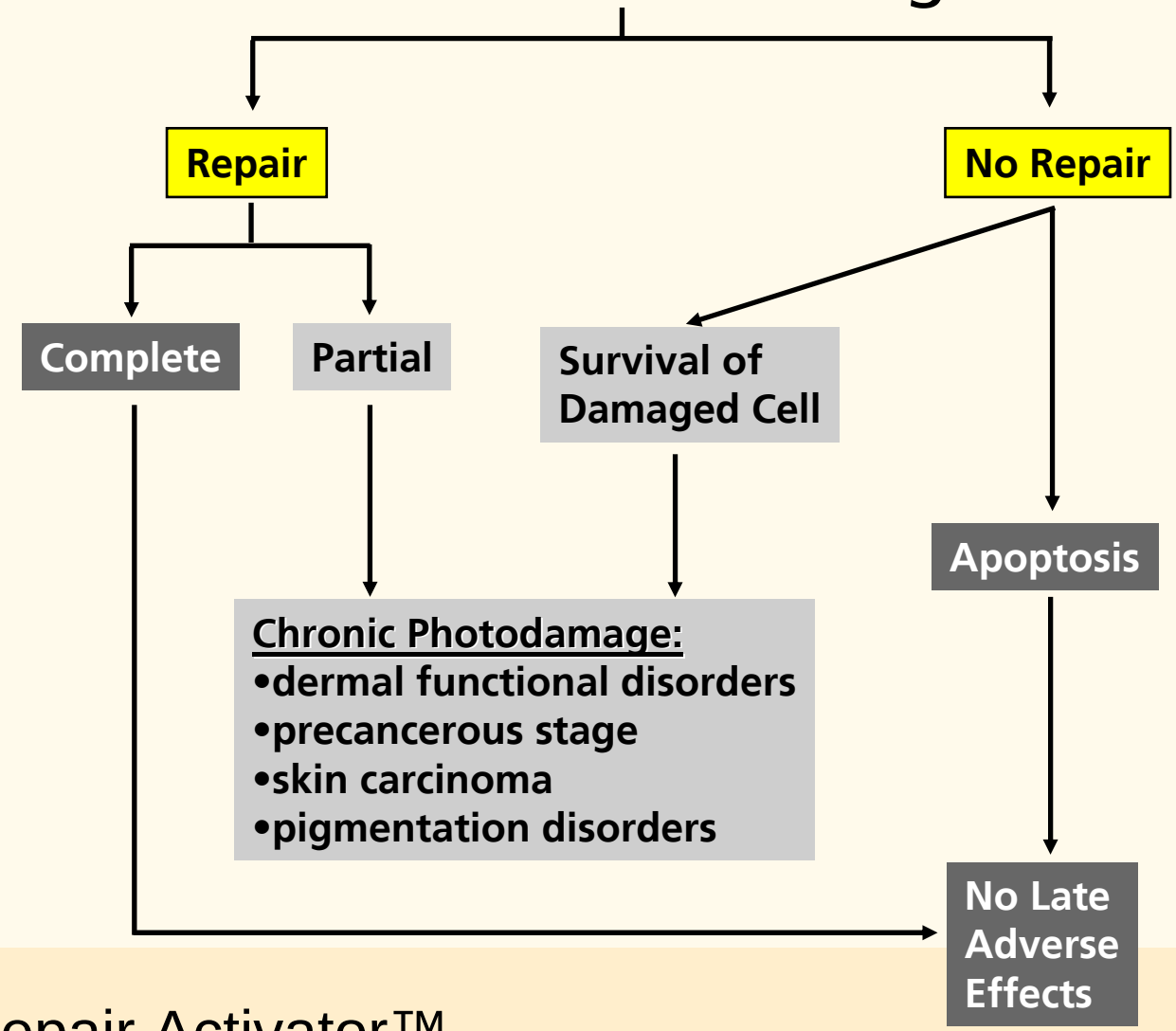
A break-through natural-sourced ingredient from Germany

Introduction

- Lysate from Bifidobacteria with a Biotechnological origin
- Contains metabolism products, cytoplasma fractions, cell wall constituents as well as polysaccharide complexes

Depth of Penetration of UV Radiation

UVB-induced DNA Damage



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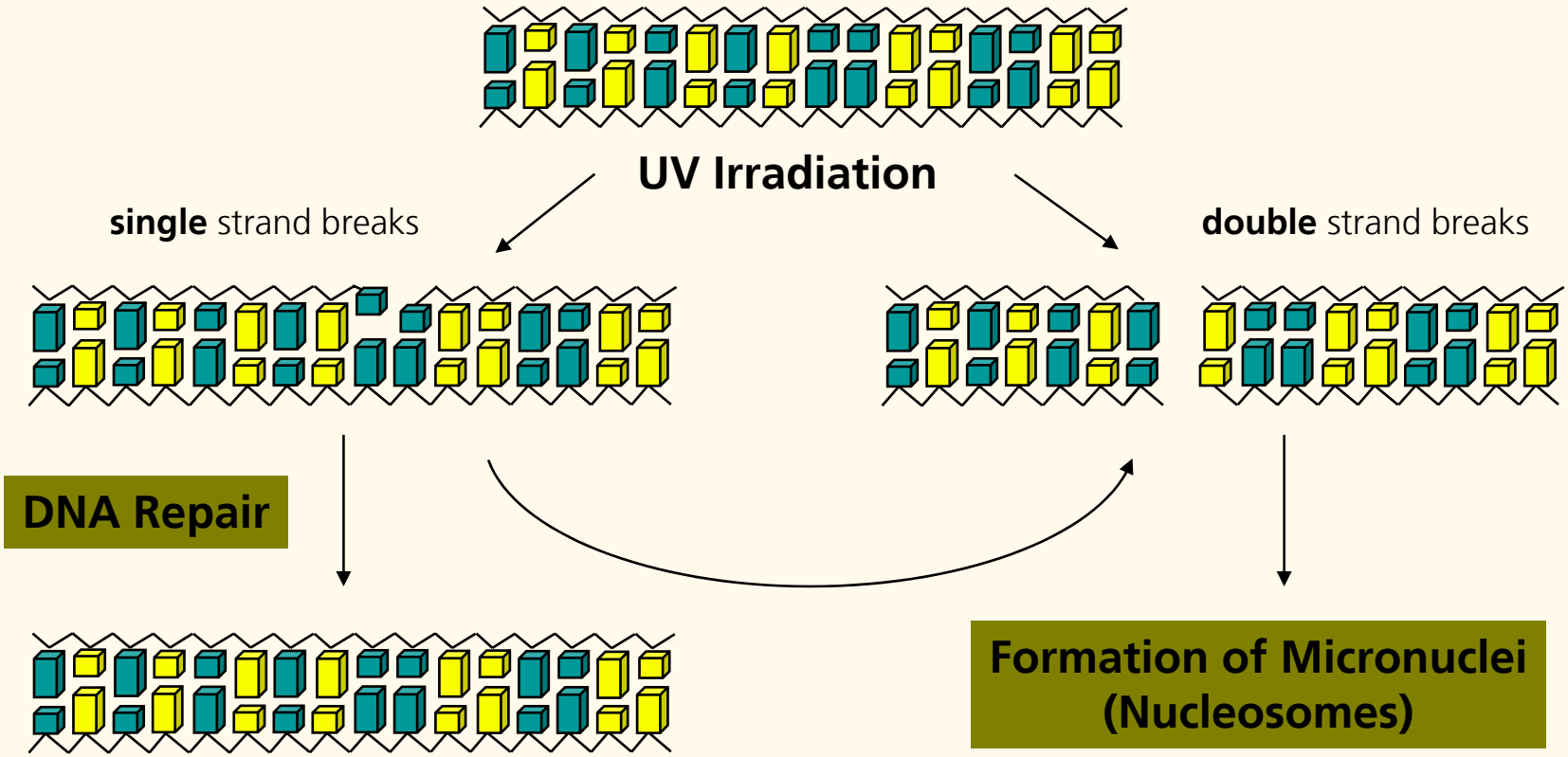
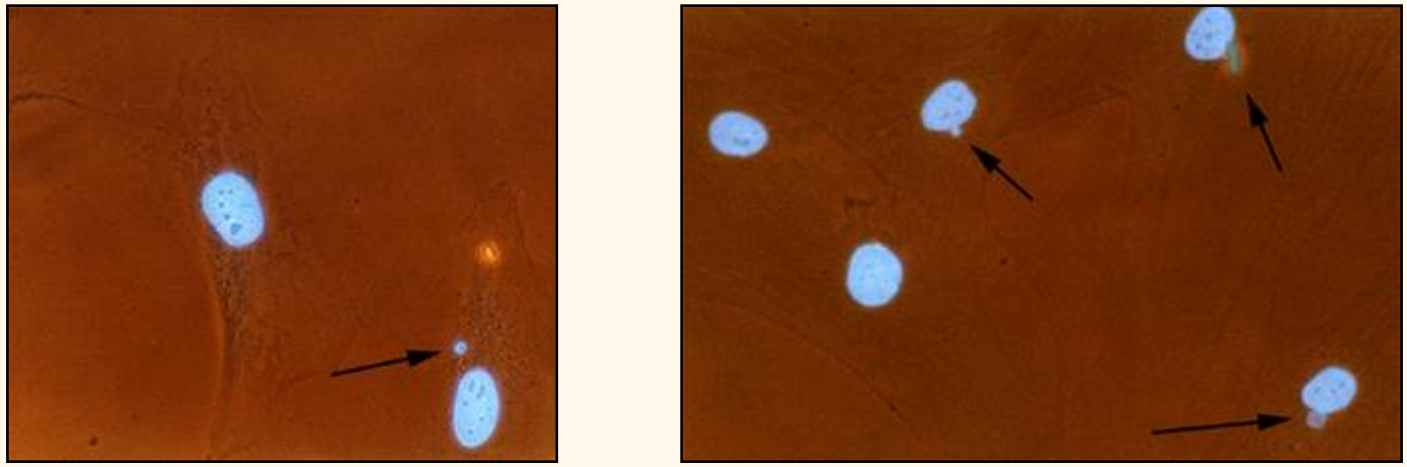
DNA Repair Activity

In vitro Test Results

DNA strand breaks induced by UV Irradiation



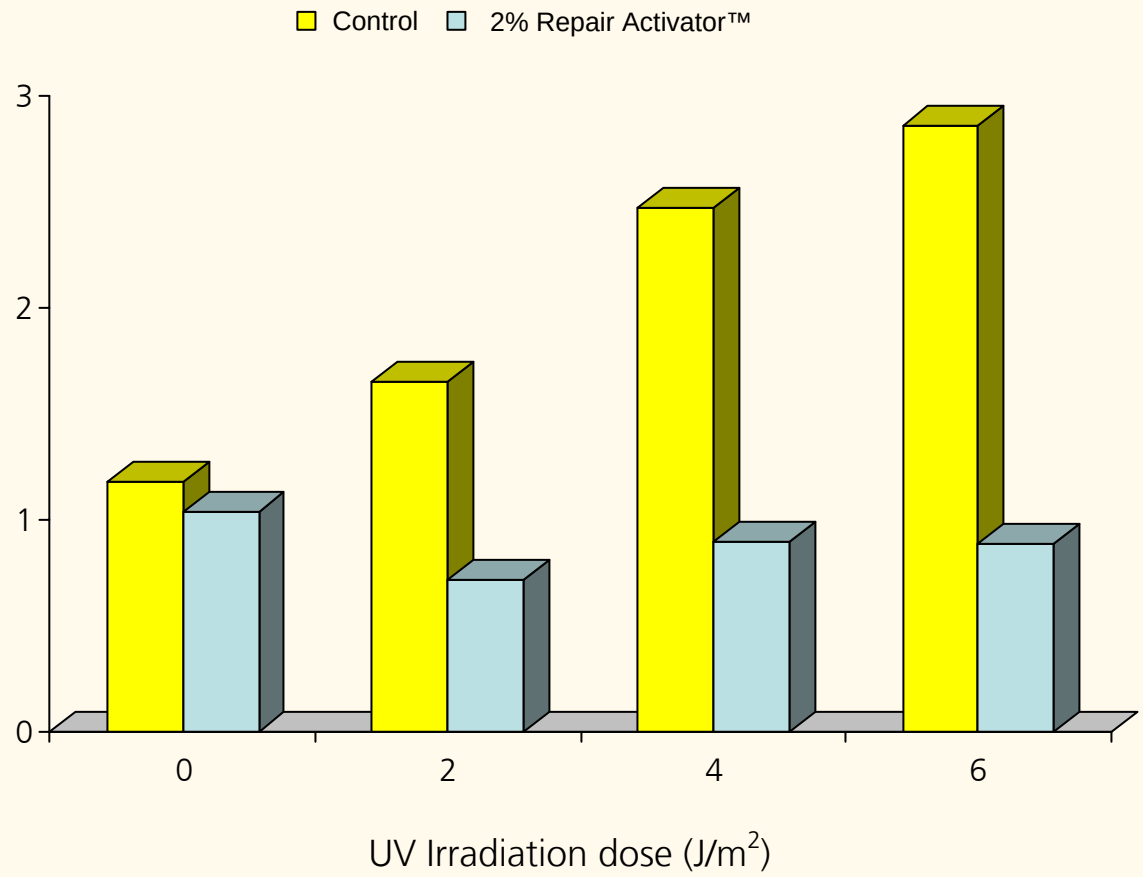
Detection of Micronuclei



Fibroblast cells were grown in the presence of 5% FCS and UV-irradiated. The nucleic acids of the cells are visualized in blue (DAPI). The arrows indicating the formation of micronuclei.

Increase of DNA Repair in normal Fibroblast Cells

Formation of Micronuclei (%) after UV Irradiation in normal fibroblast cells.



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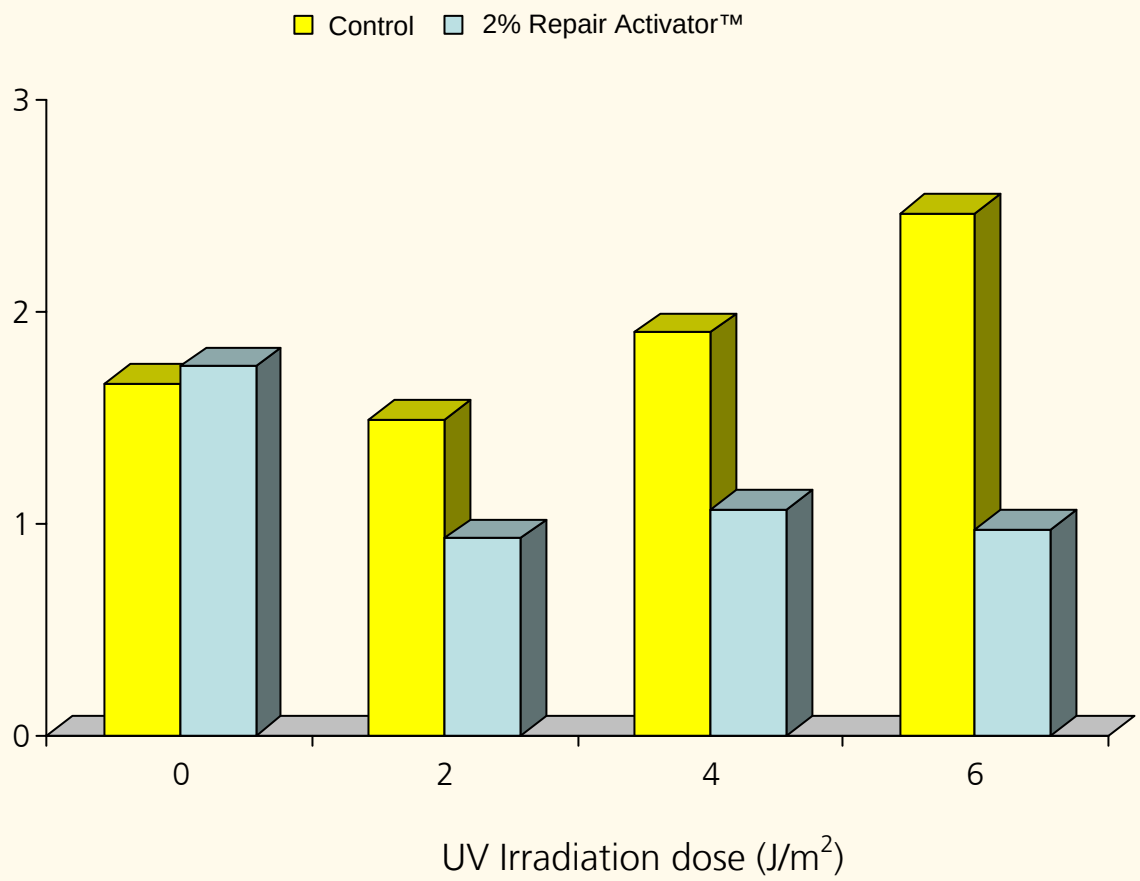
Increase of DNA Repair in Cockayne Cells

Formation of Micronuclei (%)
after UV Irradiation
in Cockayne Cells



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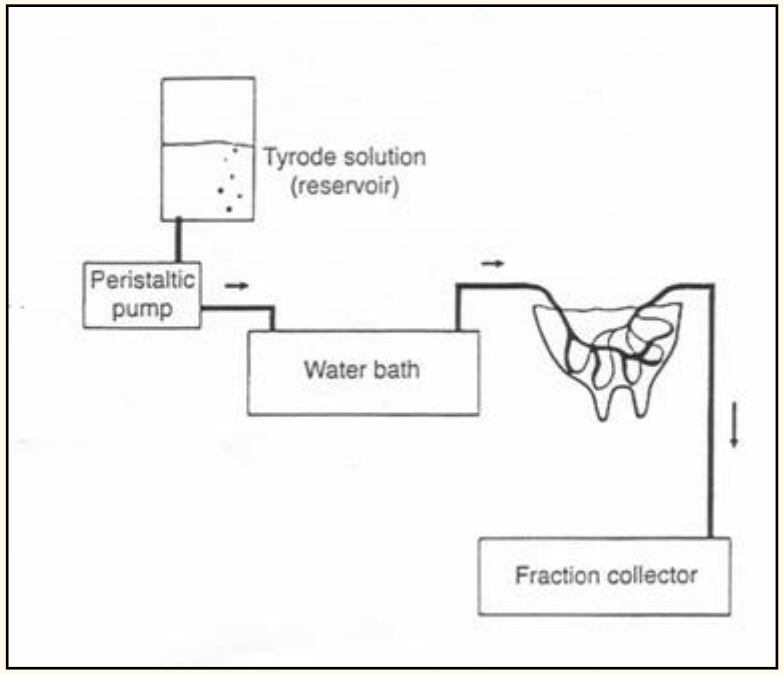
DNA Repair Activity

Ex vivo Test Results

The Isolated Perfused Bovine Udder

An alternative method for efficacy testing of cosmetic actives,
highly predictive with respect to human skin



from: Kietzmann et al. 1993. J. Pharmacol. Toxicol. Methods. 30: 75-84

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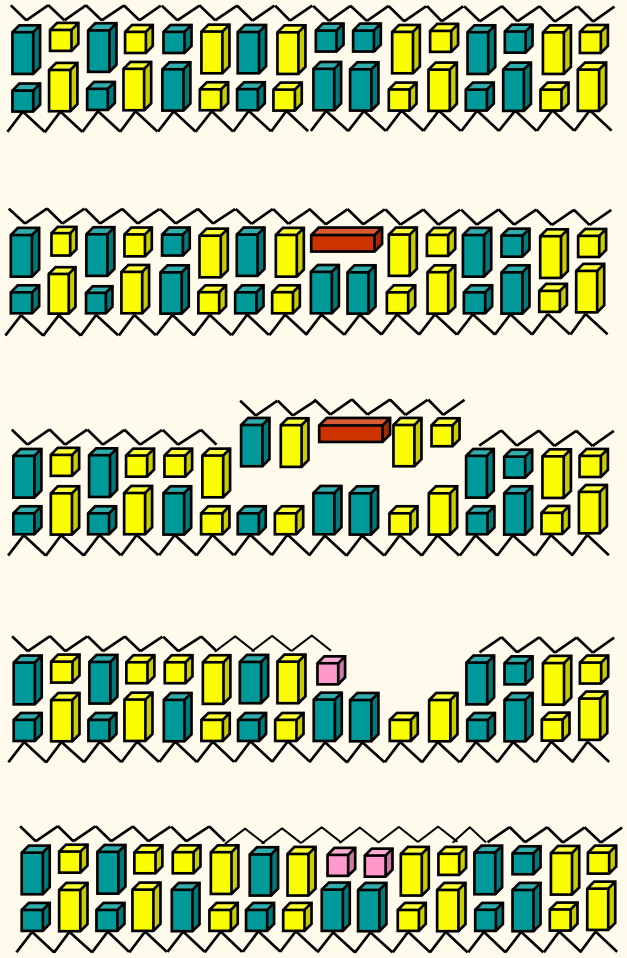
Incorporation of BrdU representing DNA Repair Activity



Intact DNA

Formation of thymine dimer due to **UV irradiation**

Removal and hydrolysis of the damaged fragment

Synthesis of new DNA, incorporation of the **thymine analog BrdU**

Repaired DNA after ligation, containing BrdU

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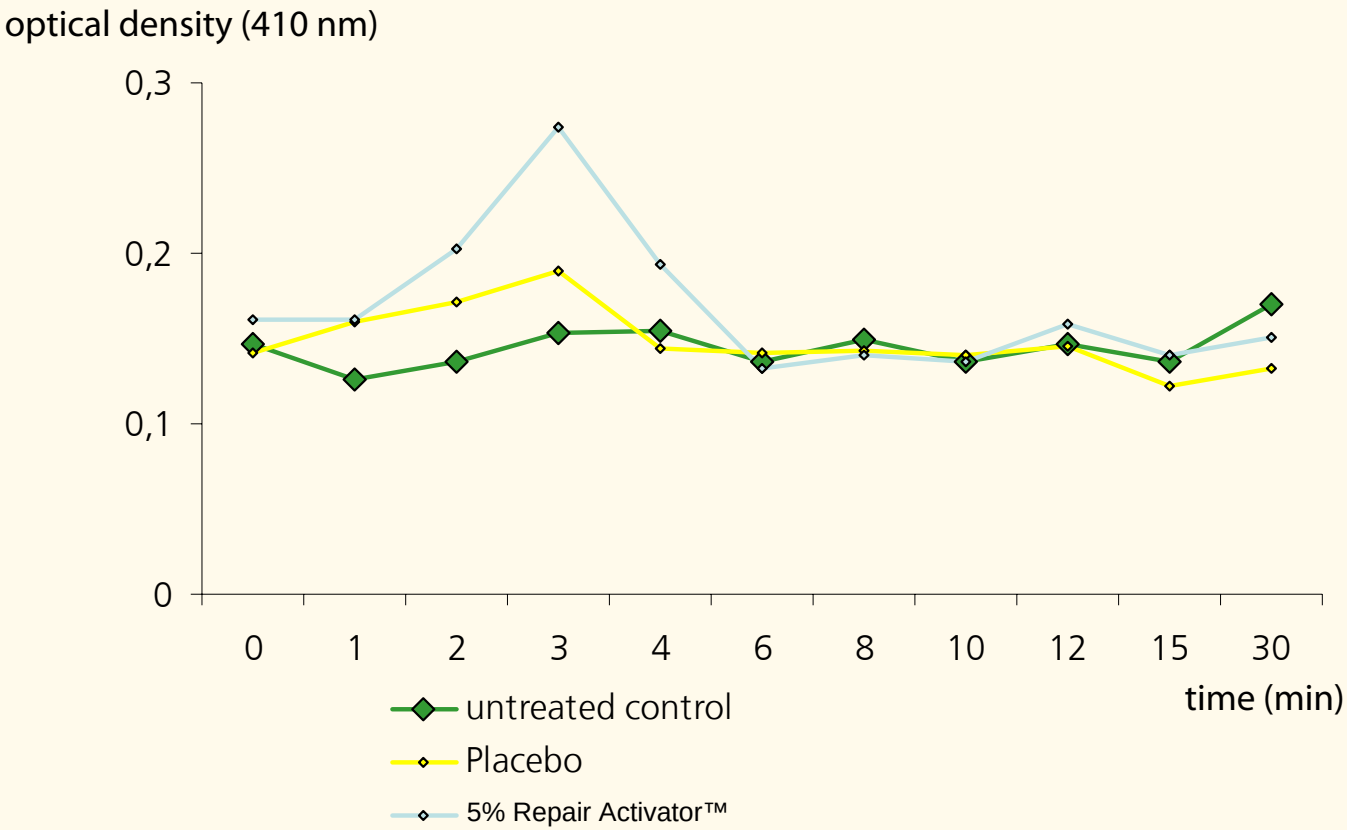
Increase of DNA Repair Activity

Increase of DNA Repair Activity

Demonstrated by BrdU Incorporation in Bovine Udder Skin after UV Irradiation.



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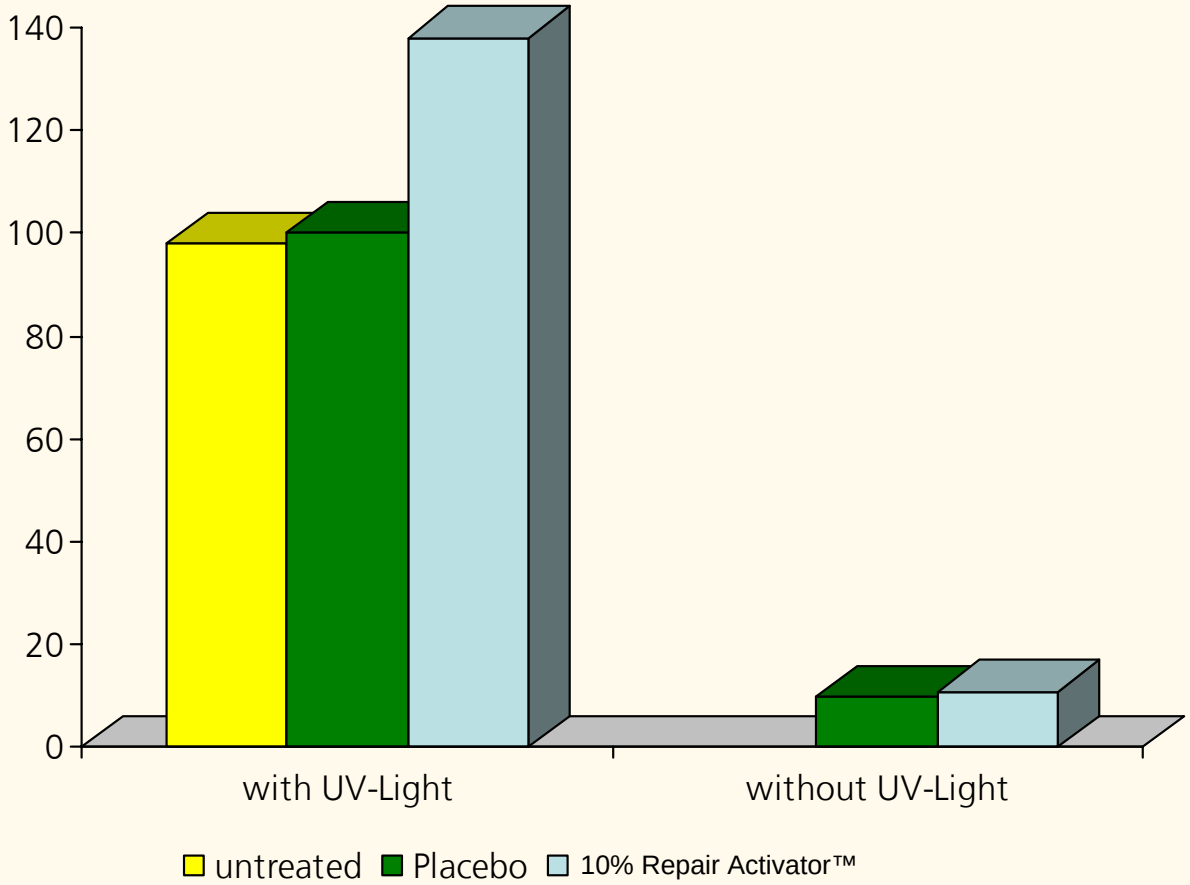
DNA Repair Activity

In vivo Test Results

Increase of DNA Repair Activity

Increase of DNA Repair Activity (%)



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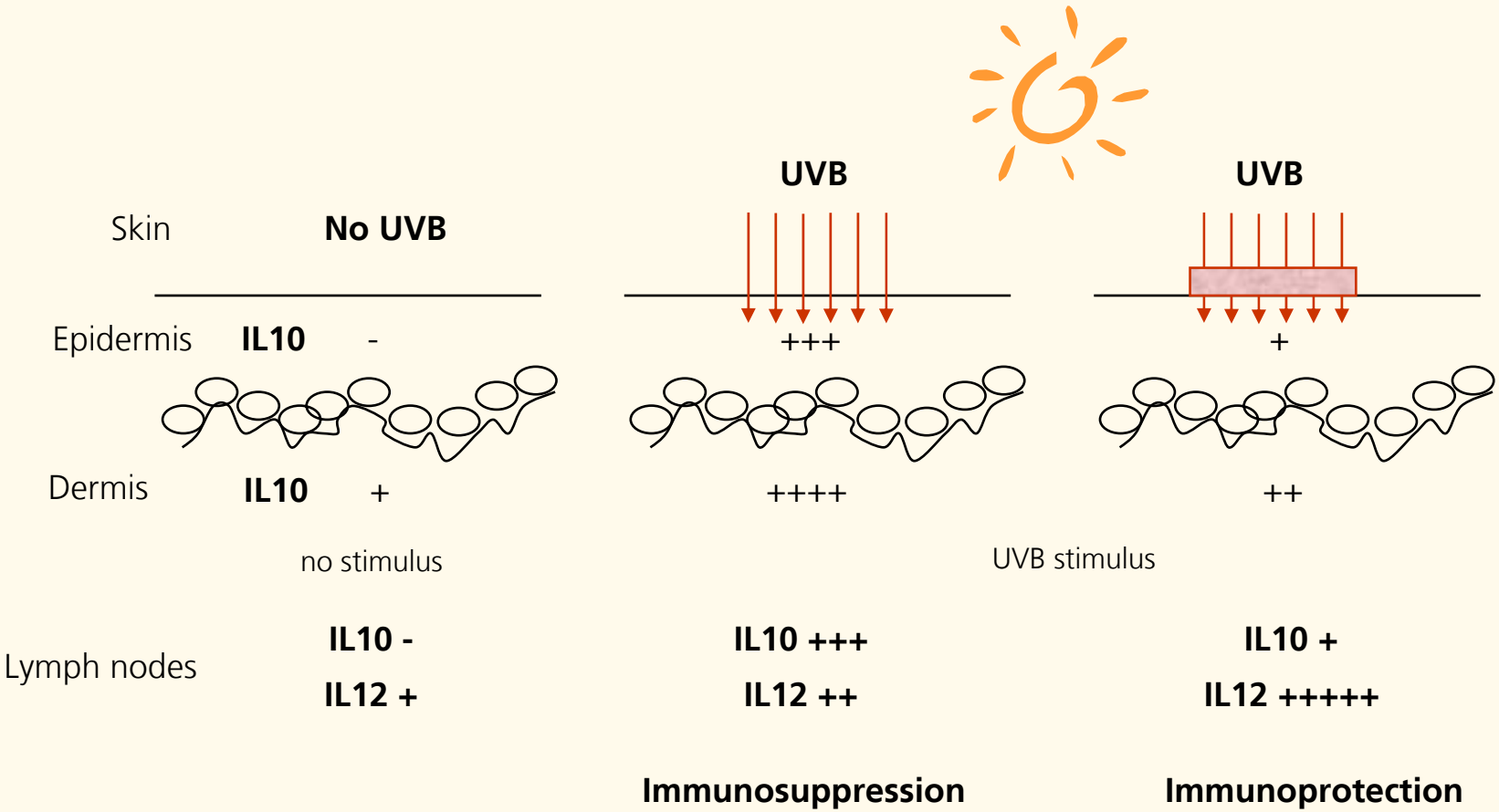
Anti-Immunosuppression

In vitro Test Results

Influence of sun light on the immune system



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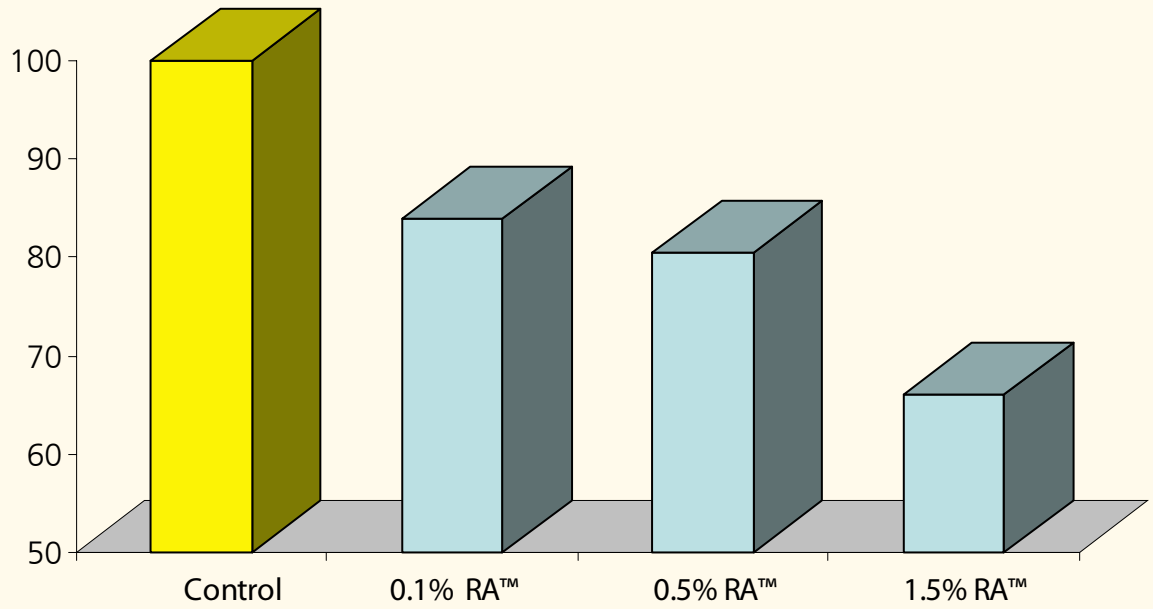
Reduction of IL-10 expression after UV irradiation

Expression of IL-10 [%]

in human keratinocytes after UV irridiation with 3 J/cm² UVA + 0.3 J/cm² UVB.



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Summary

- Stimulates the natural DNA repair mechanism after UV irradiation
- Acts against formation of double strand breaks (micronuclei)
- Reduces the risk to develop chronic photodamage
- Acts against UV-induced immunosuppression

INCI Name:	Bifida Ferment Lysate
Dosage:	5.0 - 10.0%
Recommended pH:	3.8 - 7.0