

# Repair Complex CLR™ PF

A probiotic approach towards photoaging



## Repair Complex CLR™ PF

in vivo	ex vivo	in vitro
<input checked="" type="checkbox"/> skin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Repair Complex CLR™ PF is obtained from a lysate of probiotic bifidobacteria. It is a biotechnological active which specifically supports the skin's own protection and repair mechanism and thus counteracts premature skin aging. It potently protects against UV-induced damage in the skin by showing strong anti-immunosuppressive activity and increasing cellular repair.

<b>Dosage:</b>	5.0–10.0%
<b>pH range:</b>	3.8–7.0
<b>INCI Name:</b>	Bifida Ferment Lysate

### Skin benefits

- Probiotic Bifida Ferment Lysate with a unique approach towards photoaging
- Strengthens the cellular immune system
- Allows the skin cells to effectively deal with UV light
- Skin cells maintain their functionality, allowing skin to keep its youthful appearance

### Applications

- Skin protection

### Marketing opportunities\*

- Protects skin against premature aging
- Counteracts UV damage to maintain a radiant and youthful complexion
- Provides the skin with a comprehensive answer to aging
- Boosts the natural mechanism that extends the lifespan of youthful skin cells
- Activates natural cell protection processes

\* This list is for illustrative purposes only.

Make sure to comply with relevant legislation.

# RepairComplex CLR™ PF – Selected efficacy studies

## Protection against UV-induced immunosuppression

Depending on the dose, Repair Complex CLR™ PF reduces IL-10 release by more than 30% compared with control (Fig. 1).

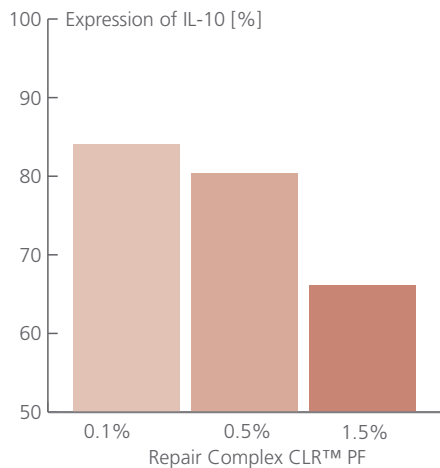


Fig. 1: Reduction of IL-10 expression after UV irradiation

## Protection against DNA damage

Severe UV exposure leads to the formation of non-repairable cells with DNA double-strand breaks, which initiates apoptotic processes. Cells going into apoptosis show the formation of micronuclei. Repair Complex CLR™ PF significantly reduces the amount of cells going into apoptosis, clearly illustrating its ability to induce DNA repair (Fig. 2).

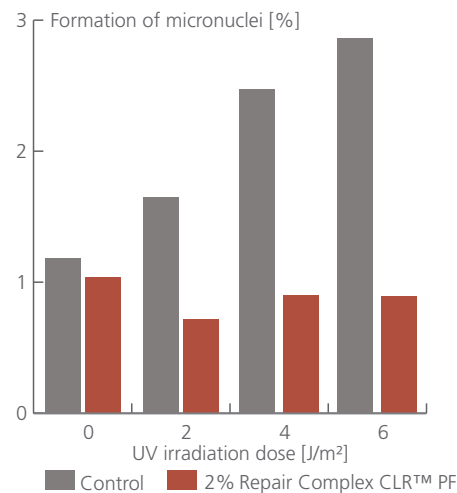


Fig. 2: Formation of micronuclei [%] after UV irradiation in normal fibroblast cells

## In vivo assay (human volunteers)

### Proof of DNA repair stimulation

The intact dorsal skin of 7 volunteers was treated on 5 test areas in the following manner:

A	O/W emulsion with 10% Repair Complex CLR™ PF	UV-irradiated
B	Placebo	UV-irradiated
C	Untreated	UV-irradiated
D	Untreated	Non-irradiated
E	O/W emulsion with 10% Repair Complex CLR™ PF	Non-irradiated

The area treated with Repair Complex CLR™ PF (A) showed an increase in DNA repair effectiveness in comparison with areas B and C. Without UV irradiation, no repair process was induced (D and E) (Fig. 3).

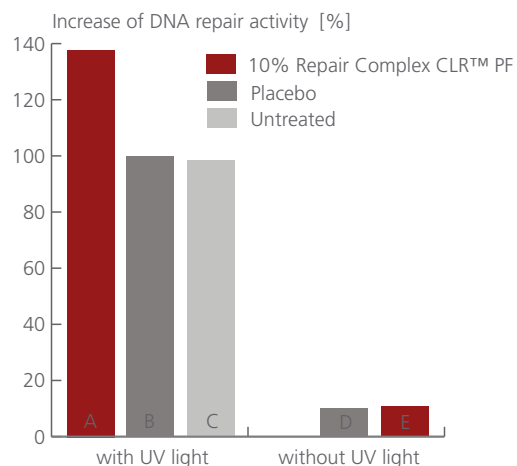


Fig. 3: Increase of DNA repair activity in vivo

## CLR

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