

Glorydermal[®] GUARD

*The holistic guardian
of your skin*



In daily life our skin is exposed to many different influences, that make the signs of time visible...

Two key influences are responsible for most of the **aging processes** and are closely related to each other:



Conclusion: Clinical signs of aging are essentially influenced by extrinsic factors, especially sun exposure. Indeed UV exposure seems to be responsible for **80% of visible facial aging signs.**

Flament, F. *et al. Clinical, Cosmetic and Investigational Dermatology* **6**, 221–232 (2013).



UV radiation and free radicals

are the major causes of premature skin aging due to e.g. **DNA damage** and **oxidation processes** which lead to aging signs like photo aging, wrinkles, ...

That is why our skin needs a reliable
repair and protection system

UV radiation/DNA damage

Free radicals/oxidation processes

Glorydermal[®]
GUARD

DNA repair
Neutralisation of
free radicals



Active description – Enzymes and enzyme like actives



UV radiation and **free radicals** are both very well-known natural influences of **ancient origin**.

Since the beginning of life, organisms are depended on using effective **repair and protective mechanisms** to counteract these influences to survive.

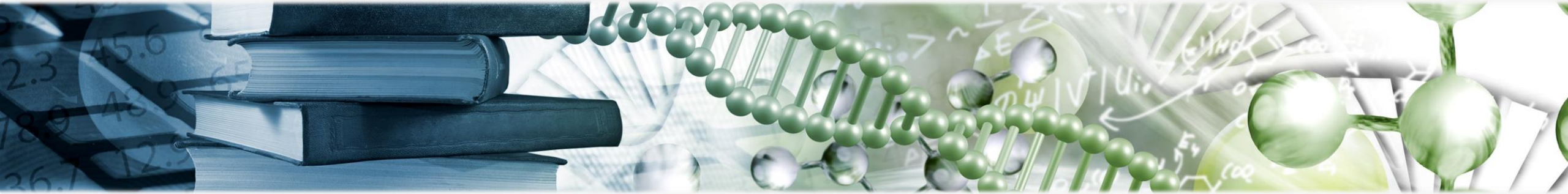
Enzymes play an essential role in these processes. They **enhance and accelerate** many biochemical reactions and they have **important functions in the metabolism of organisms**.

They are **not used up** over many reaction cycles and therefore they offer a **long-term powerful efficacy**.

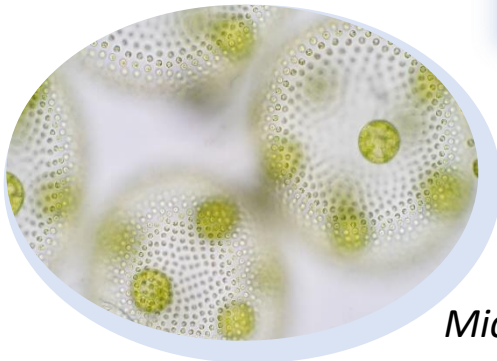
Enzymes could be called the “conductors of life”.



Active description – Learning from nature: two enzymatic partners



DNA repair



Microalgae extract

**Repair enzyme
photolyase**

Antioxidant enzyme



Iron peptide

**Neutralisation of
free radicals**

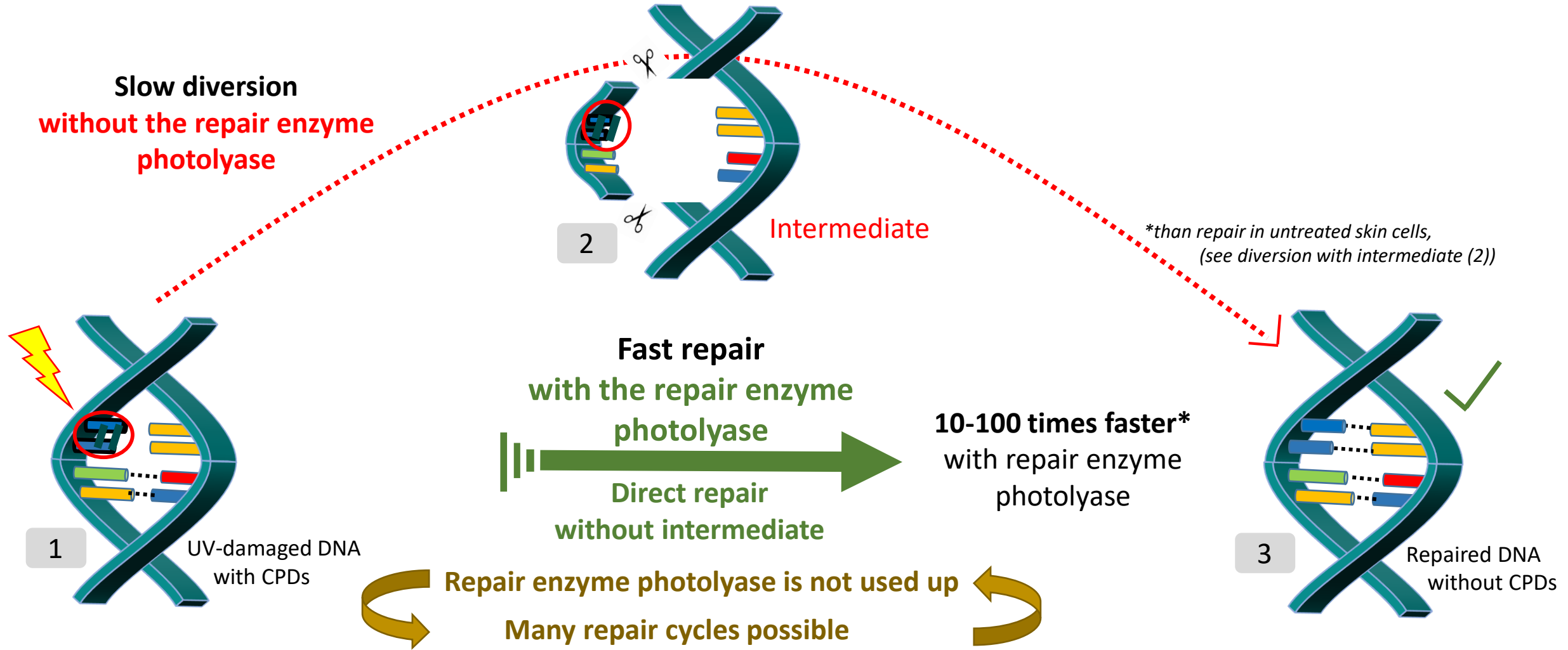
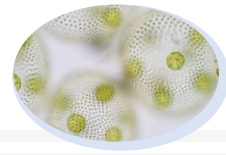
Synergistically and continuously acting complex consisting of **two enzymes:**

- the **repair enzyme photolyase** (microalgae extract) and
- an **antioxidant enzyme** (iron peptide)

encapsulated in liposomes for improved penetration



Active description – Enzymes: continuously operating accelerators





Active description – Antioxidant enzyme



Antioxidant enzyme (iron peptide):

Reactive Oxygen Species (**ROS**), which include free radicals, are **continuously neutralised**.

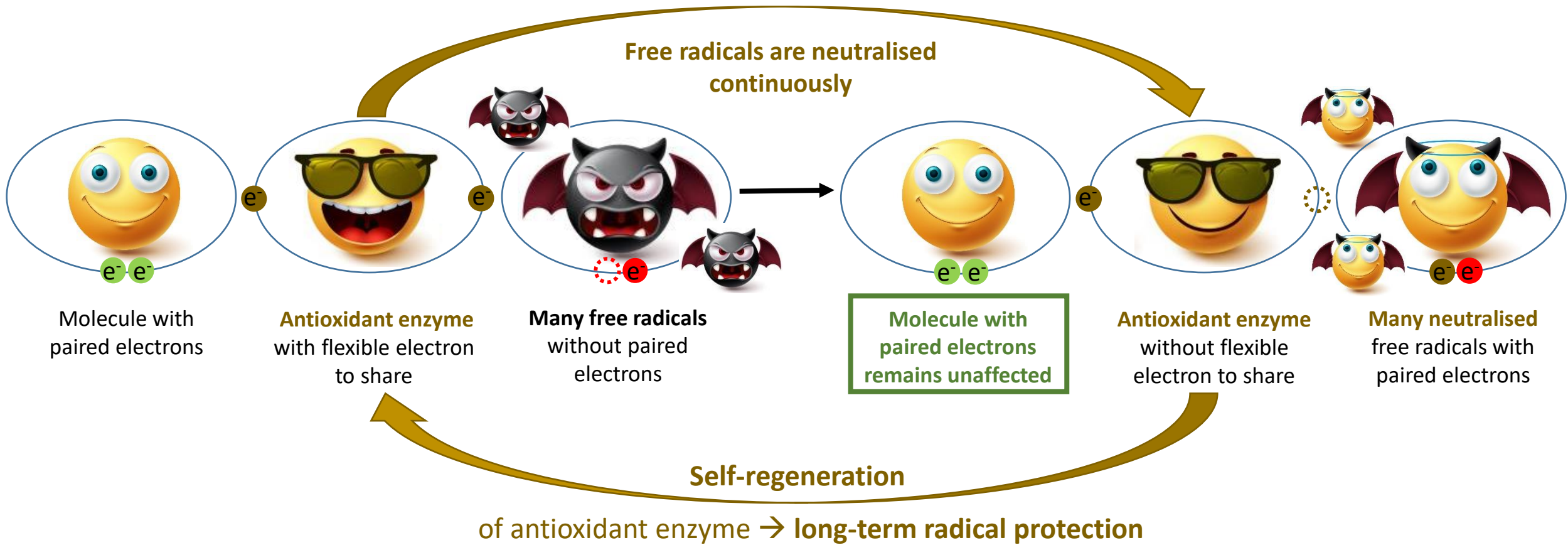
This long-term antioxidant acts like an enzyme. It is **not used up** and **regenerates itself**.



Long-term radical protection

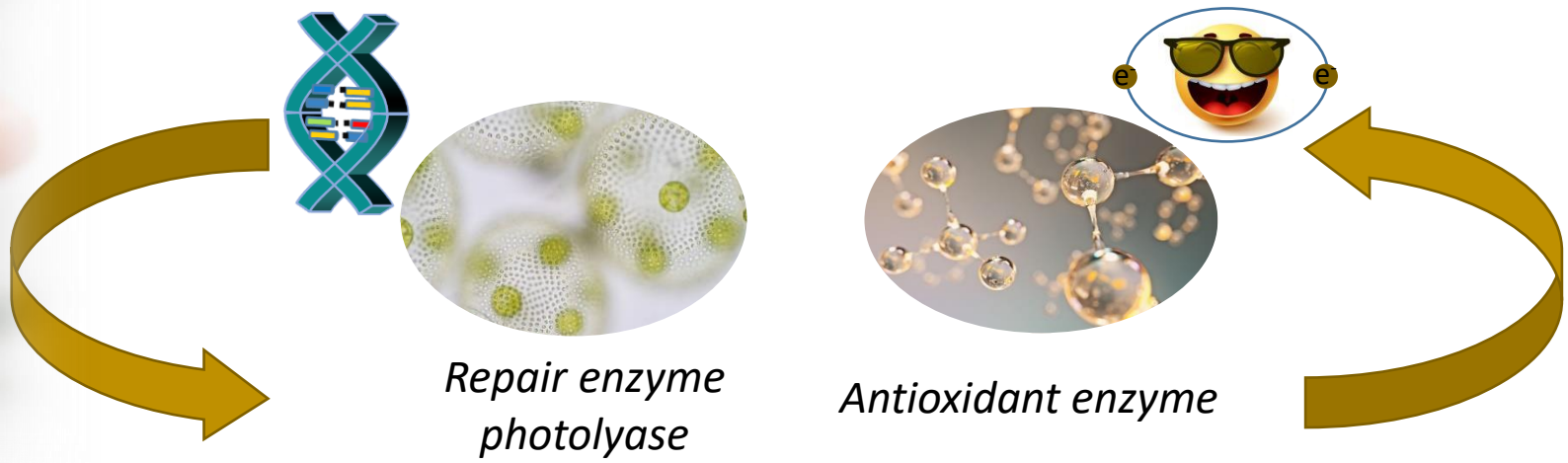


Neutralisation of free radicals with antioxidant enzyme in Glorydermal® GUARD





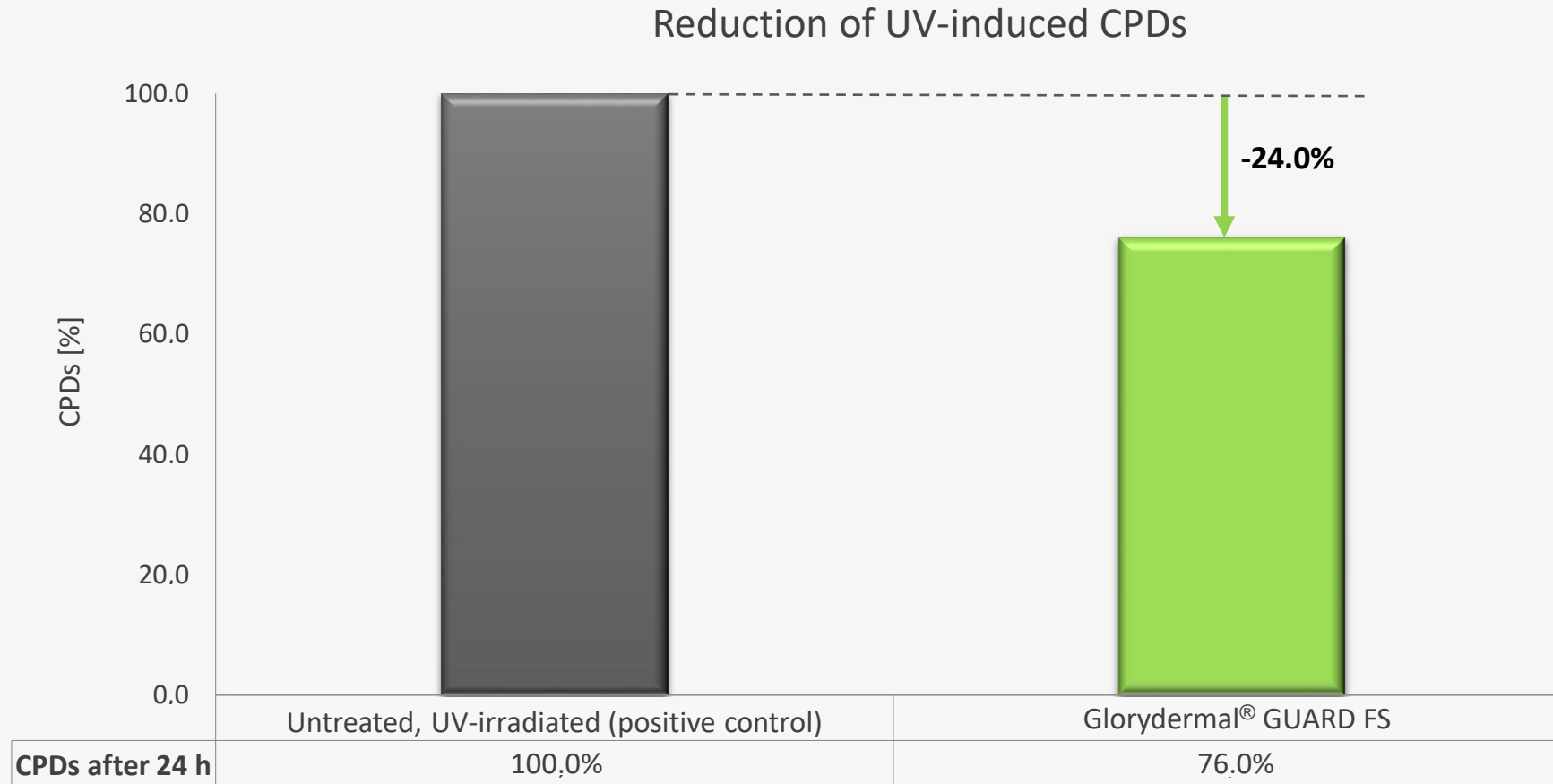
Continuously operating partners: Repair enzyme & Antioxidant enzyme



Both are not used up

➔ Many repair cycles & continuous radical neutralisation possible

➔ Synergistic long-term repair & protection

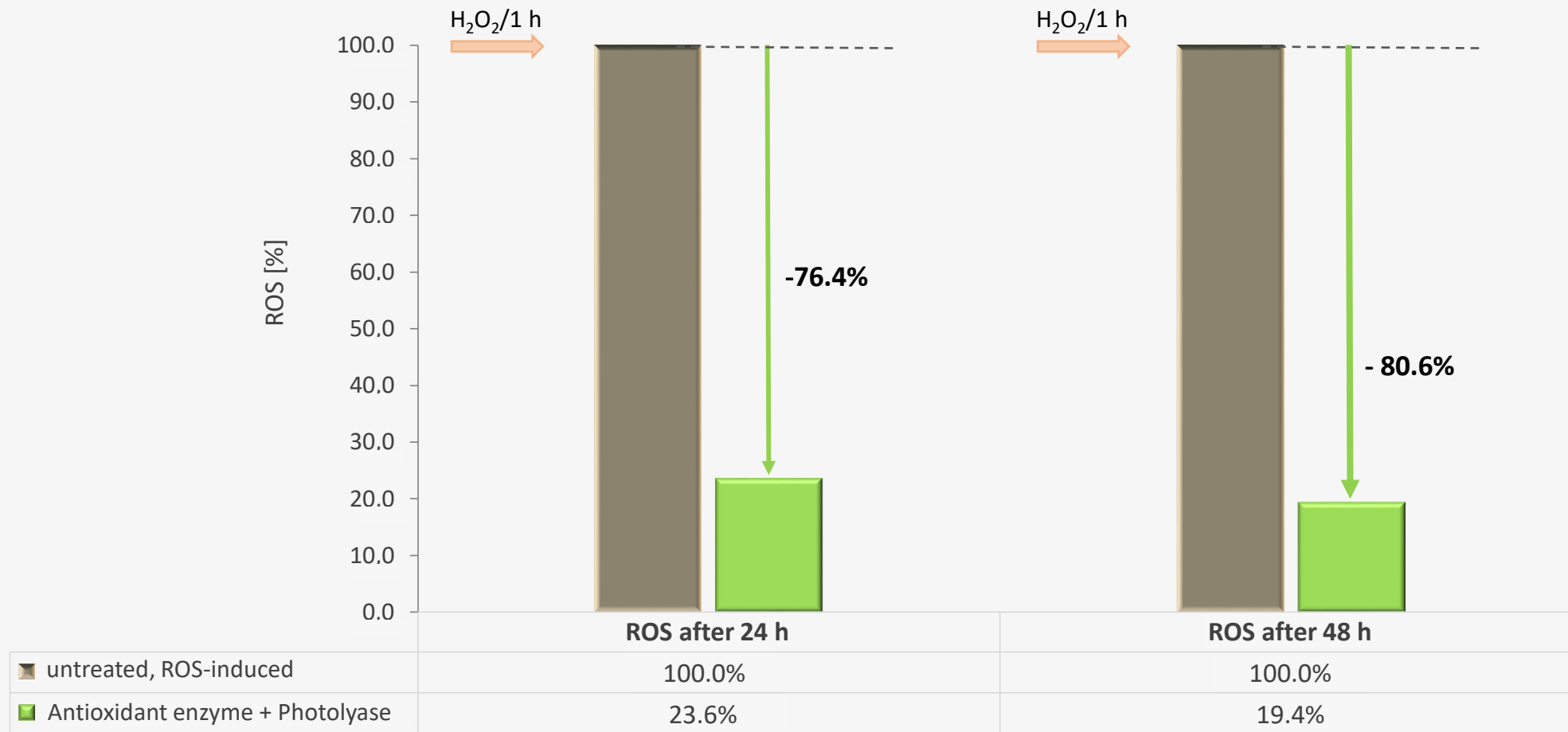


Significant repair of UV-induced cell damage

Study design: Human 3D full-thickness skin models, used formulation: aqueous solution of active ingredient with 1% Glorydermal® GUARD FS. Followed by Irradiation: UVB radiation (220 mJ/cm²), incubation for 24 h. Untreated, UV-irradiated = positive control (normalisation to 100%, maximum stress). Analysis: CPD ELISA assay (epidermal keratinocytes), results in relation to positive control (p<0.01).



Efficacy study 2a) – Long-term radical protection



The antioxidant enzyme regenerates itself and provides long-lasting protection against free radicals.

Study design: Human keratinocytes, used formulation: aqueous solution of active ingredient with 1% Glorydermal® GUARD FS with respect to the antioxidant enzyme. ROS were induced by H₂O₂ treatment (treatment duration: 1 h). Untreated, ROS-induced = positive control (normalised to 100%, maximum stress). Results in relation to positive control (p<0.0001).

Glorydermal® GUARD

INCI EU (CTFA/PCPC):

AQUA (WATER), PROPANEDIOL, PLANKTON EXTRACT, LECITHIN, GLYCERIN, XANTHAN GUM, HISTIDINE, FERRIC GLYCEROPHOSPHATE, GLYCINE, GLUTATHIONE.

ADDITIVES, PRESERVATIVES:

PENTYLENE GLYCOL, SODIUM PHYTATE, LACTIC ACID.

Appearance: light yellow to light grey, hazy liquid

Solubility: dispensable in water

Recommended dosage: 1%

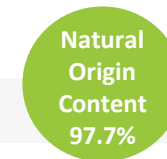
Formulation: at the end of the production at a temperature < 40°C



VEGAN

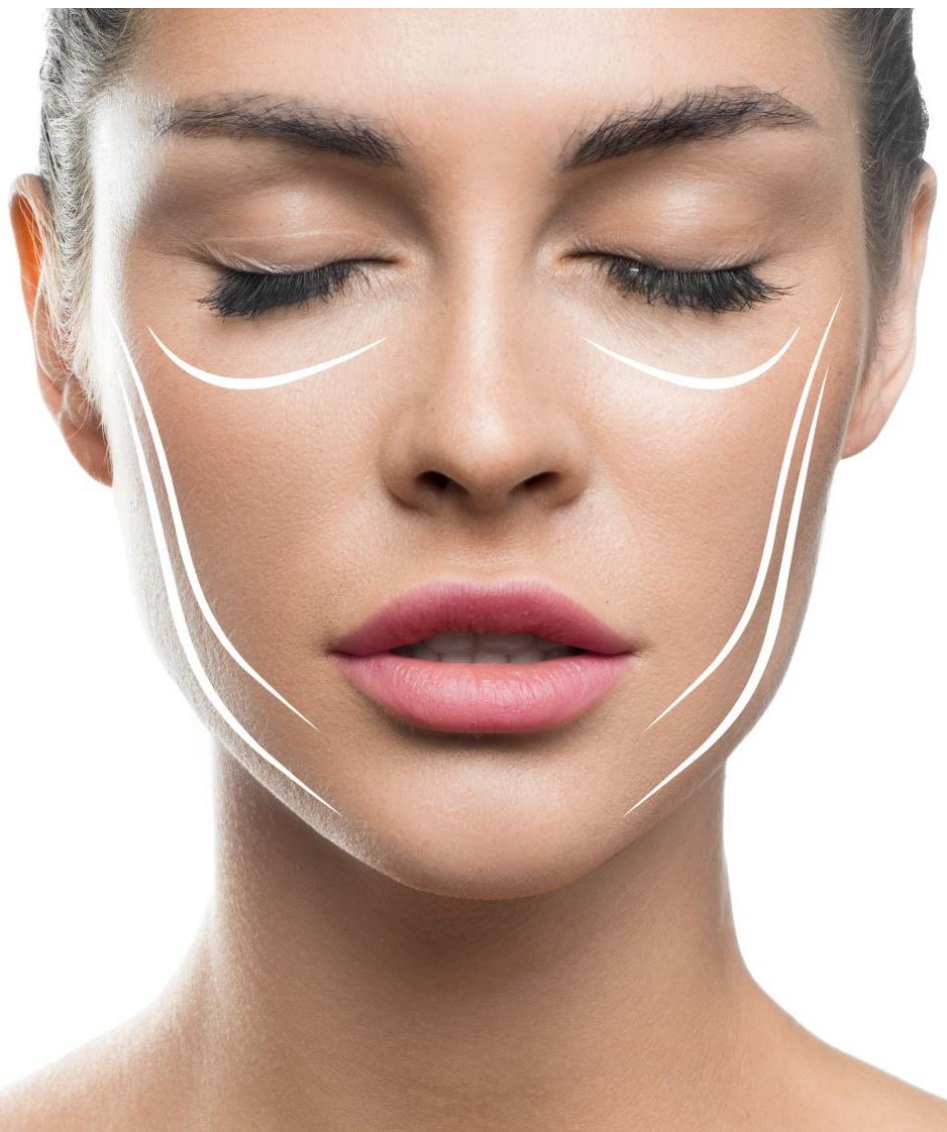


ISO 16128



ISO 16128

Summary – PROTECTIVE BEAUTY



- Comprehensive, reliable skin protection without burdening
- Synergistic long-term effect through repair enzyme photolyase and antioxidant enzyme
- Continuous repair of DNA damage and long-lasting neutralisation of ROS (Reactive Oxygen Species, free radicals)
- Easy handling in the production of cosmetic products (addition at the end of the production, cooled bulk)
- Recommended for daily care (serum, cream, etc.), body care, sunscreen and after sun products



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