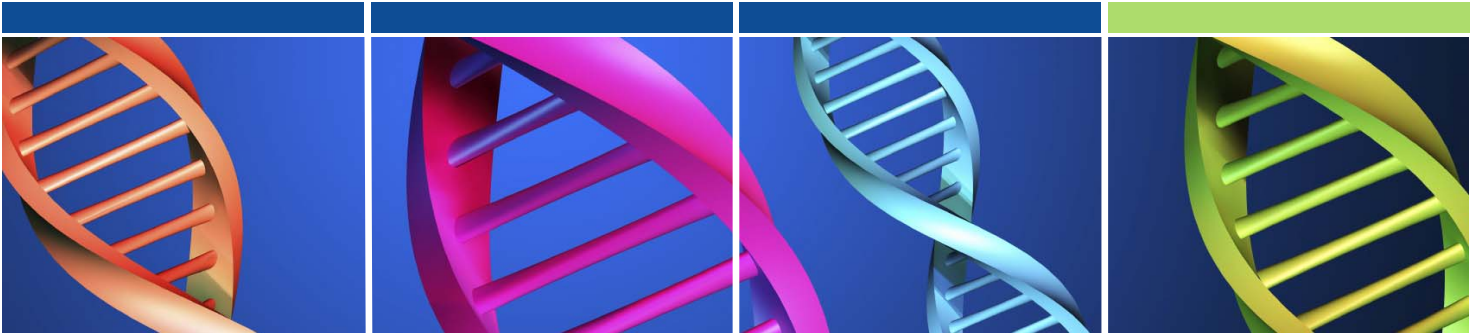




CELLIGENT[®]

Intelligent Cell and DNA Protection



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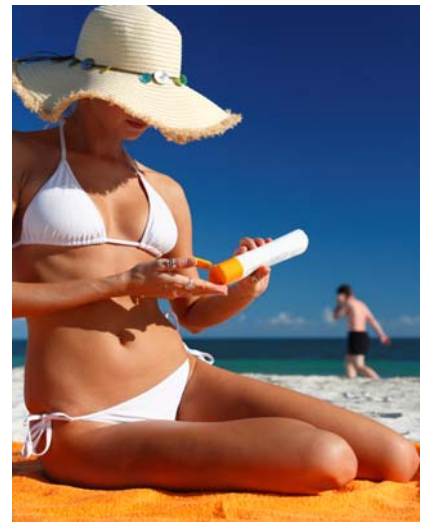
Your partner for excellence

CELLIGENT®

CELLIGENT® is active cell and DNA protection. The active ingredient complex has been especially developed for treating UV-stressed skin. The composition of Carnosolic Acid and Ethyl Ferulate neutralises the free radicals which damage skin cells thus effectively preventing the occurrence of UV damage. The Uridine Monophosphate component, one of the pre-cursors to DNA synthesis, also supports the cells in repairing their DNA. Scientific studies *in vitro* and *in vivo* confirm the effectiveness of CELLIGENT®.

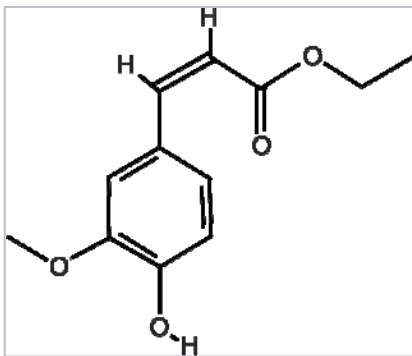
Confirmed effectiveness

- Active cell and DNA protection during solar irradiation – *in vitro* study
- Promotes rapid regeneration of damaged cells and DNA following UV-induced erythema – *in vivo* study

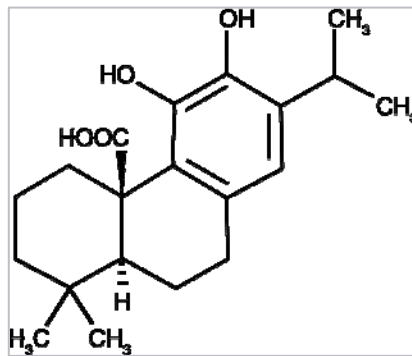


Active ingredients

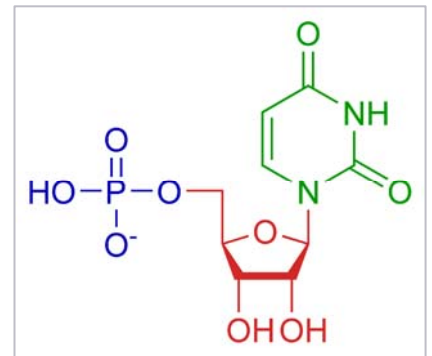
CELLIGENT® protects the DNA and supports the repair of UV-induced cell damage.



Ethyl Ferulate, a natural antioxidant with UV-absorbing properties, neutralises dangerous oxygen radicals and reduces the dose of UV-radiation penetrating the skin.

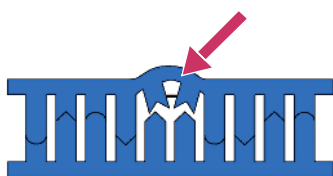


Carnosolic Acid combats free radicals – one of the main causes of DNA damage.

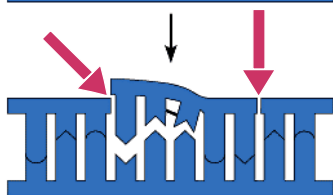


Uridine Monophosphate (UMP) is a biochemical nucleotide pre-cursor. UMP supports DNA repair in the cell, in particular the process of nucleotide excision repair.

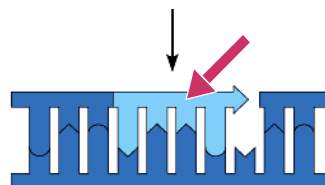
DNA – Excision Repair Mechanism



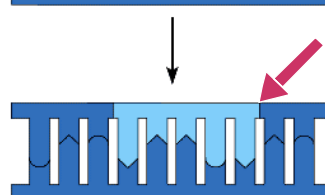
1. Typical DNA damage: Dimerisation of Thymines



2. A nuclease repair enzyme recognises and removes the damaged section of DNA



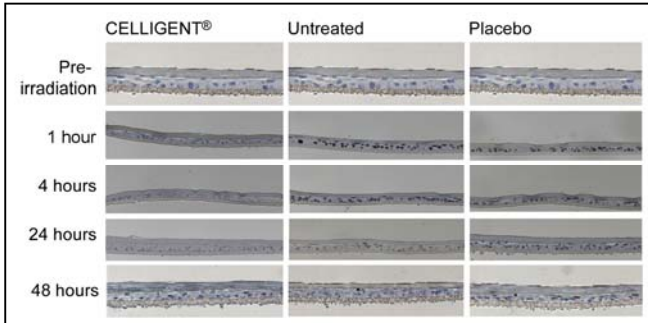
3. A polymerase enzyme replaces the missing section of DNA



4. A ligase enzyme connects the two strands of DNA

Effectiveness studies

DNA protection — *in vitro* study on 3D skin models using



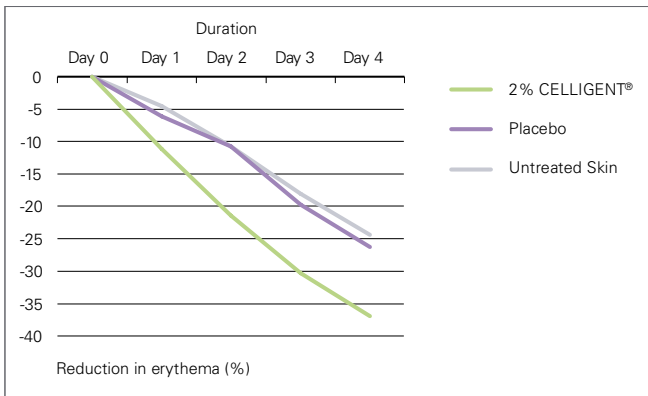
Measurement parameters: DNA damage, thymine-thymine dimers (black dots due to antibody reaction)

Method: Irradiation with Mega-Ray UVA and UVB lamp (Dose of 1500 mJ/cm²); treatment with a) CELLIGENT® undiluted, b) untreated skin and c) placebo (Caprylic/Capric Triglyceride).

Time left on beforehand = 30 minutes

Result: CELLIGENT® prevents the formation of DNA damage (no black dots)

**DNA-repair — *in vivo* erythema test
Reduction of skin redness after UV-irradiation**

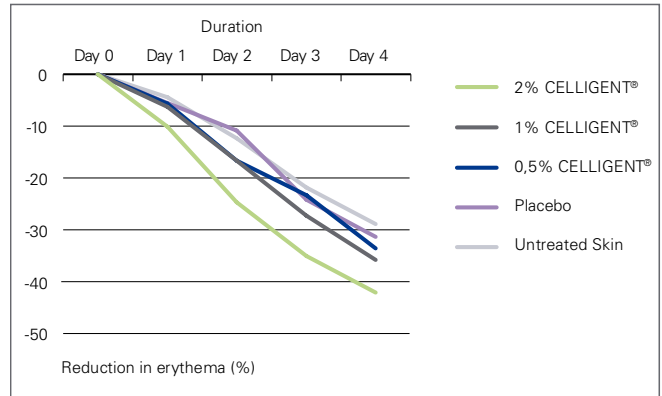


Measurement parameters: Skin redness of human skin

Method: Participants: 20 test subjects, age: 33-79 years; Test area: upper thigh; Application before irradiation; Test formulations: 2% CELLIGENT®, placebo (Caprylic/Capric Triglyceride), untreated skin; Irradiation with UVB light (2.0 - 2.2 MED); treatment and measurements continued for 4 days; measuring equipment Chromameter CR 200 (Minolta)

Result: CELLIGENT® promotes the regeneration of skin damaged by UV-irradiation

**DNA-repair — *in vivo* erythema test
Dosage-effected erythema reduction**



Measurement parameters: Skin redness of human skin

Method: Participants: 10 test subjects, age: 33-79 years; Test area: upper thigh; Application before irradiation; Test formulations: 0.5%, 1%, 2% CELLIGENT®, Placebo (Caprylic/Capric Triglyceride), untreated skin; Irradiation with UVB light (2.0 - 2.2 MED); treatment and measurements continued for 4 days; measuring equipment Chromameter CR 200 (Minolta)

Result: Increased dosage concentration of CELLIGENT® affects a positive repair efficacy

Concentration for use

0.5-4%

Areas of application

Anti-aging products, skin care products for sun protection, after-sun products. Suitable for emulsions (W/O and O/W) and gels.

INCI

EU: Helianthus Annuus Seed Oil, Ethyl Ferulate, Polyglyceryl-5 Trioleate, Rosmarinus Officinalis Leaf Extract, Aqua, Disodium Uridine Phosphate

USA/Japan: Helianthus Annuus (Sunflower) Seed Oil, Ethyl Ferulate, Polyglyceryl-5 Trioleate, Rosmarinus Officinalis (Rosemary) Leaf Extract, Water, Disodium Uridine Phosphate

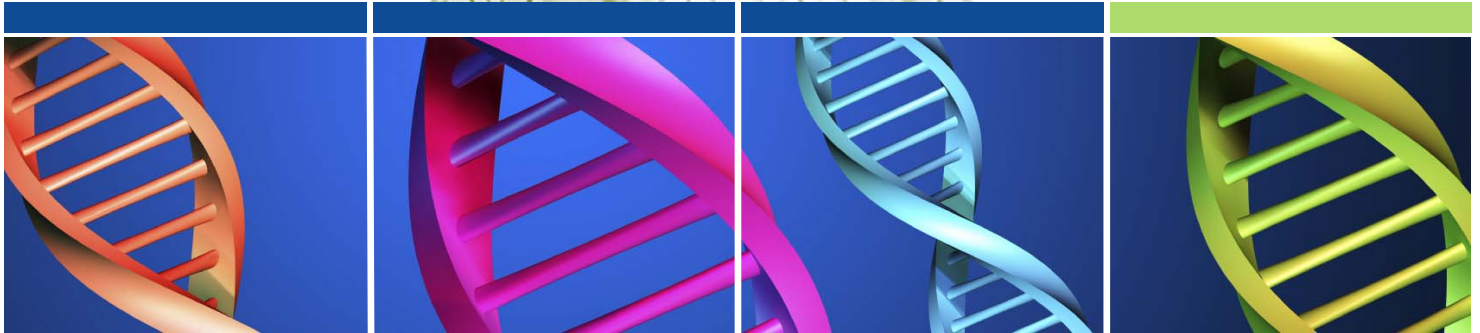
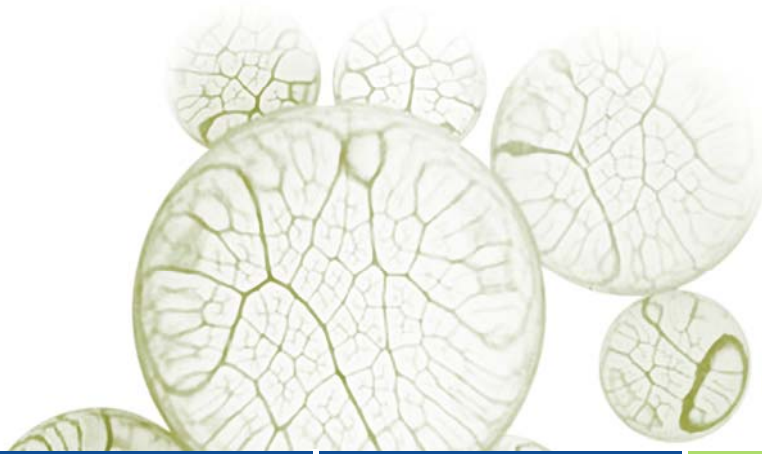
Further information

Preservatives: Free of preservatives

Animal experiments: Not tested on animals, no ingredients of animal origin

Toxicology: Non-toxic for humans and the environment

Safety: Free from GMOs, BSE, CMR, pesticides, mineral oils, heavy metals



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