

VitiDerm[®]

Gel and tablets
Regulator and stimulant
for dermal depigmentation

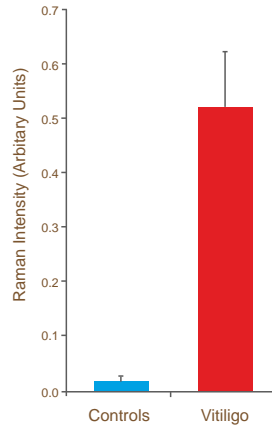


Research progress in the field of skin depigmentation

Numerous recent studies have highlighted certain anomalies in patients with skin depigmentation.

These include a gradual loss of melanocytes⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾ and an abnormally high level of hydrogen peroxide (H_2O_2) in the epidermis, leading to oxidative stress and oxidation of proteins and lipids⁽⁵⁾.

Concentration of H_2O_2 in patients with vitiligo



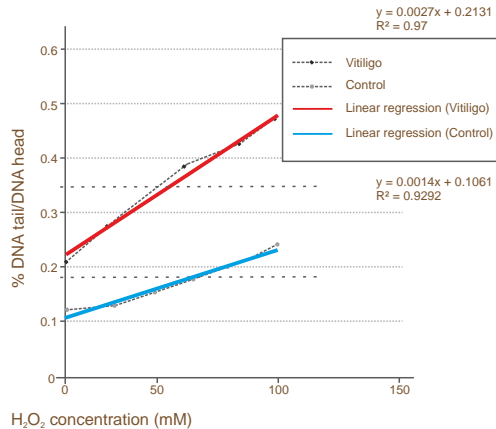
Concentration of hydrogen peroxide (H_2O_2) in patients with vitiligo (red) compared to patients without vitiligo (blue)⁽⁶⁾.

Oxidative stress and depigmentation

Oxidative stress damages the melanocyte membranes, the cells which are essential for skin pigmentation⁽⁶⁾.

In patients with vitiligo, it has been shown that a deficiency in catalase, vitamins and minerals is one of the causes of oxidative stress⁽⁷⁾⁽¹²⁾.

Cell damage in patients with vitiligo



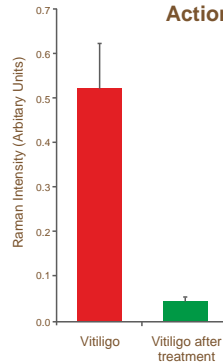
Cell damage in vitiligo patients (red) and control (blue) exposed to an increasing concentration of H₂O₂ (from 1-100 mM). Oxidative stress level and tyrosinase activity in vitiligo patients⁽⁶⁾.

Restoring the physiological conditions for pigmentation

- It has been shown that treatment with pseudocatalase limits oxidative stress and reduce damage to the melanocytes which are responsible for skin pigmentation.
- Topical or systemic administration of ginkgo biloba⁽¹⁰⁾, antioxidants such as vitamin E⁽¹¹⁾ and superoxide dismutase (SOD), can limit depigmentation and even, according to some studies, promote repigmentation, ideally in combination with phototherapy.
- Vitamins and minerals (B12, E, selenium, calcium, folic acid) help to compensate for deficiencies in vitiligo patients⁽¹²⁾⁽¹³⁾⁽¹⁴⁾.

Reduction in the concentration of hydrogen peroxide with administration of pseudocatalase

Concentration of hydrogen peroxide (H₂O₂) in vitiligo patients before treatment (red) compared to vitiligo patients after treatment (green) with pseudocatalase. H₂O₂ is almost completely reduced after treatment⁽⁹⁾.

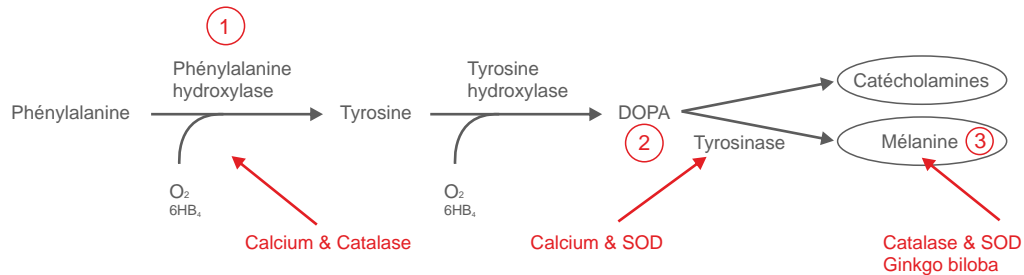


Action of antioxidants in the inhibition of the superoxide ion



(CANTALOUPE)

Cell damage in vitiligo patients



- ① Disturbance in phenylalanine hydroxylase activity during an anomaly in the biopterin cycle / $6-BH_4$. Epidermal H_2O_2 accumulation alters the tetrahydrobiopterin ($6-BH_4$) cycle, which is recognised for its importance during the initial stages of melanin and catecholamine synthesis, which are accompanied by a fall in catalase levels. A supply of calcium and catalase reduces the level of H_2O_2 and regulates the biopterin cycle.
- ② Tyrosinase is a crucial enzyme in the process of melanogenesis which ensures skin pigmentation. Tyrosinase is inhibited in the presence of free oxygen radicals (superoxide ion O_2^-). A supply of catalase, SOD and ginkgo biloba reduces levels of HO° and O_2^- .
- ③ Melanin whitens in the presence of oxygen radicals $^\circ OH$. A supply of catalase, SOD and ginkgo biloba helps to reduce levels of $^\circ OH$.

Pseudocatalase and UVB have successfully been used to treat oxidative stress in vitiligo, reducing cell damage and resulting in a remarkable degree of repigmentation⁽⁶⁾.

VitiDerm gel and tablets

VitiDerm was developed by doctors P. Lemoine, Phounsavath, E. Steinheimer, Selosse & Debavelaere on the basis of in-depth research and tests.

Formulated with an optimum combination of ingredients whose benefits have been demonstrated by numerous scientific studies, VitiDerm delivers a concentrated cocktail of high-performing active substances:

- **Vegetable-based melon extract** rich in anti-oxidising agents (superoxide dismutase - SOD and catalase), helps restore normal physiological conditions in terms of free radicals at the keratinocyte and melanocyte level.
- **Ginkgo biloba**: an antiradical, like melon, to combat the free radicals which cause damage to cells and melanocytes.
- **Vitamin D3** (chloride calcium) helps preserve the cell membrane structure and contributes to the production of melanin.
- **L-cystine**: an amino acid with antioxidant properties which is involved in the synthesis of melanin.
- **Zinc, copper, selenium, folic acid, vitamins C and B12** to compensate for the deficiencies typically found in persons with skin depigmentation.
- **Vitamin E**: limits oxidation of the melanocyte membranes.



VitiDerm products are controlled to meet a dual requirement: the uncompromising quality imposed by our own engineers and our pharmacist clients, and the need to conform to the most rigorous pharmaceutical standards.

•VitiDerm Gel Skin pigment regulator



Non-greasy, paraben-free gel to be applied morning and evening. Massage into clean, dry skin using light strokes.

Ingredients: aqua, propylene glycol, alcohol, PEG-40 hydrogenated castor oil, carbomer, cucumis melo fruit extract, ginkgo biloba leaf extract, cholecalciferol, glycerin, calcium chloride, parfume, potassium sorbate, sodium hydroxide, citric acid, sodium benzoate, methylchloroisothiazolinone, methylisothiazolinone, limonene, linalool.

100 ml tube.

VitiDerm Gel. Available from dispensing chemists: ACL 9968447

•VitiDerm Tablets Skin pigment stimulant



Three tablets a day to be taken during a main meal. Formulated to stimulate skin pigmentation

Ingredients: Bulking agent: cellulose, borage (flowering tops), L-cystine, potato dextrin, melon extract (base: maltodextrin), anti-caking agent: talc, naturally occurring vitamin E (base: starch), vitamin C; Minerals: zinc gluconate, selenium-enriched yeast, copper gluconate, vitamins B12, B9.

Box of 75 blister-wrapped tablets.

VitiDerm Tablets. Available from dispensing chemists: ACL 9968430

Rigorous checks and guaranteed plant quality all the way through to packaging. Each stage in production is subject to the highest quality controls.

- no paraben
- no artificial colourings
- not tested on animals

MADE IN FRANCE
ISO 9001 QUALITY



VitiDerm®

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2. Department of Dermatology, Himalayan Institute of Medical Sciences, Jolly Grant, Dehradun, INDE. Clinical and experimental dermatology ISSN 0307 6938, India.

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