



# HYDRACARE LIGHTENING

BUSINESS OPPORTUNITY



**TO BLEACH**  
+  
**TO CARE**  
+  
**TO NOURISH**



**MULTI-FUNCTIONAL PRODUCT**

**AIMS**



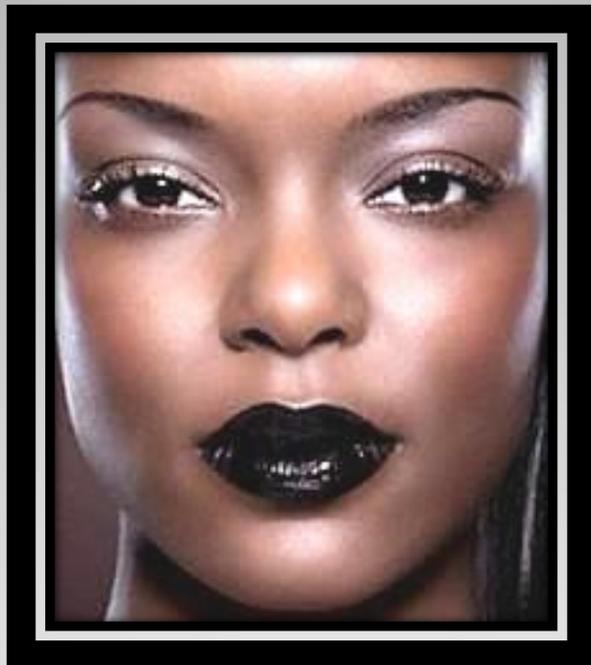
MORE THAN 99.9 %  
OF NATURAL  
ORIGIN

HYDRACARE LIGHTENING



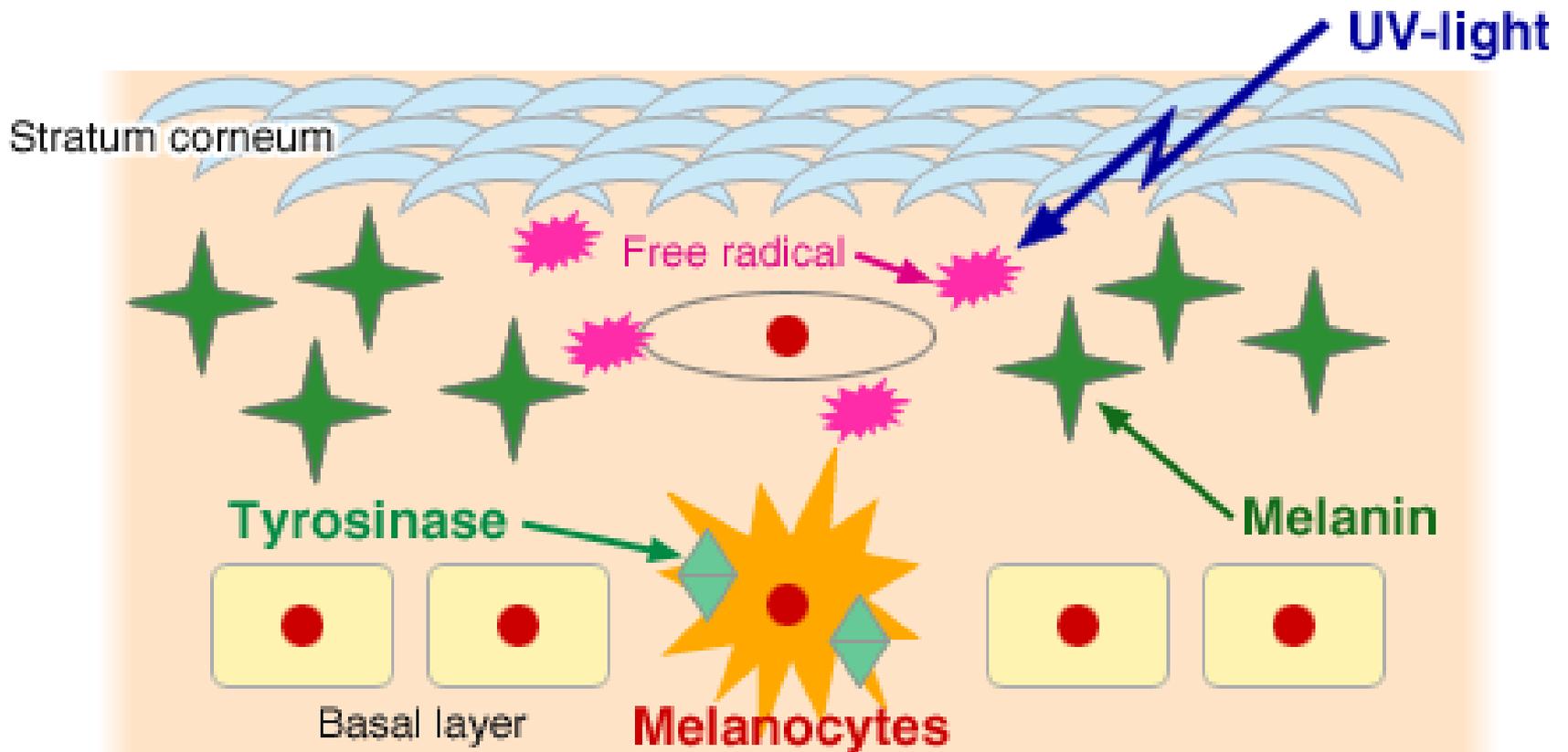
**EVOIL HYDRACARE LIGHTENING**  
showed whitening activity, at 100%  
concentration, when dosed 4 times





**REDUCED MELANIN  
IN 47%**

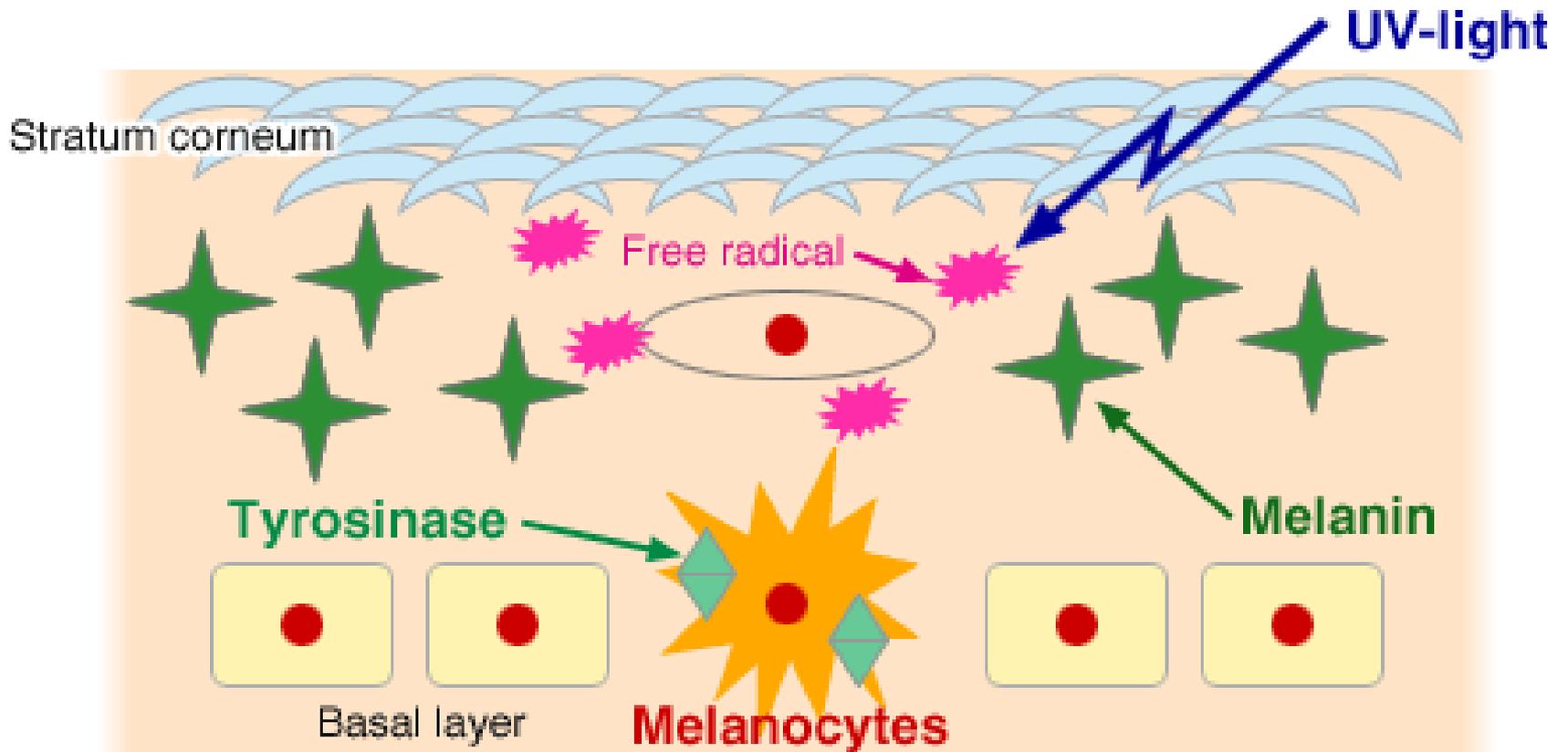




- In the skin, melanocytes are located on the basal layer which separates dermis and epidermis.
- 1 melanocyte is surrounded by approx. 36 keratinocytes.
- Together, they form the so-called epidermal melanin unit.

# MELANOGENESIS



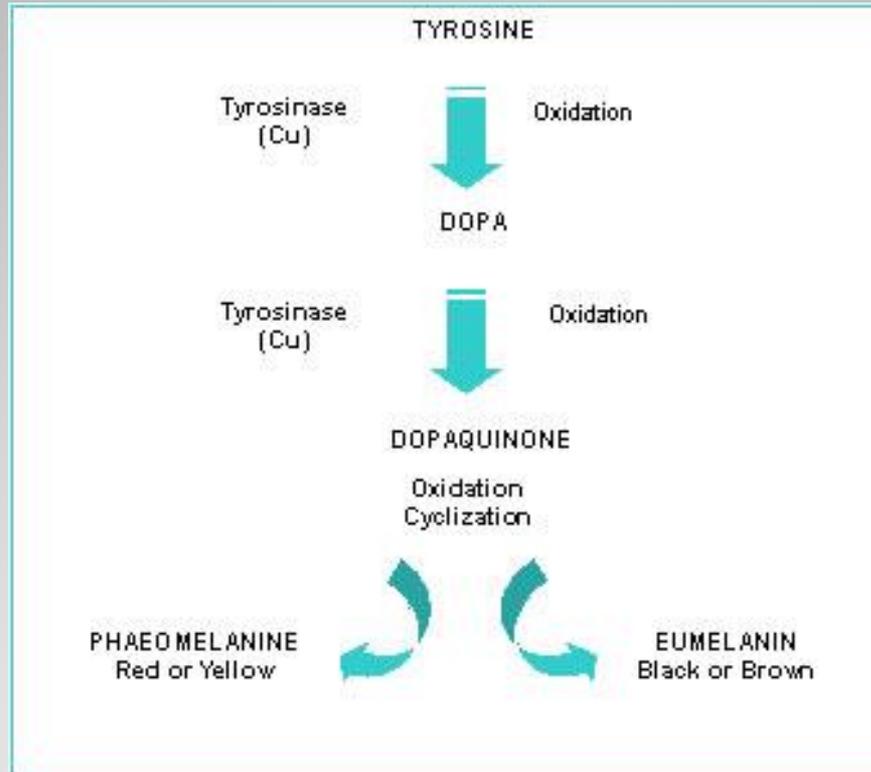


- The melanin produced and stored inside the melanocyte in the melanosomal compartment is transported via dendrites to the overlying keratinocytes.

# MELANOGENESIS



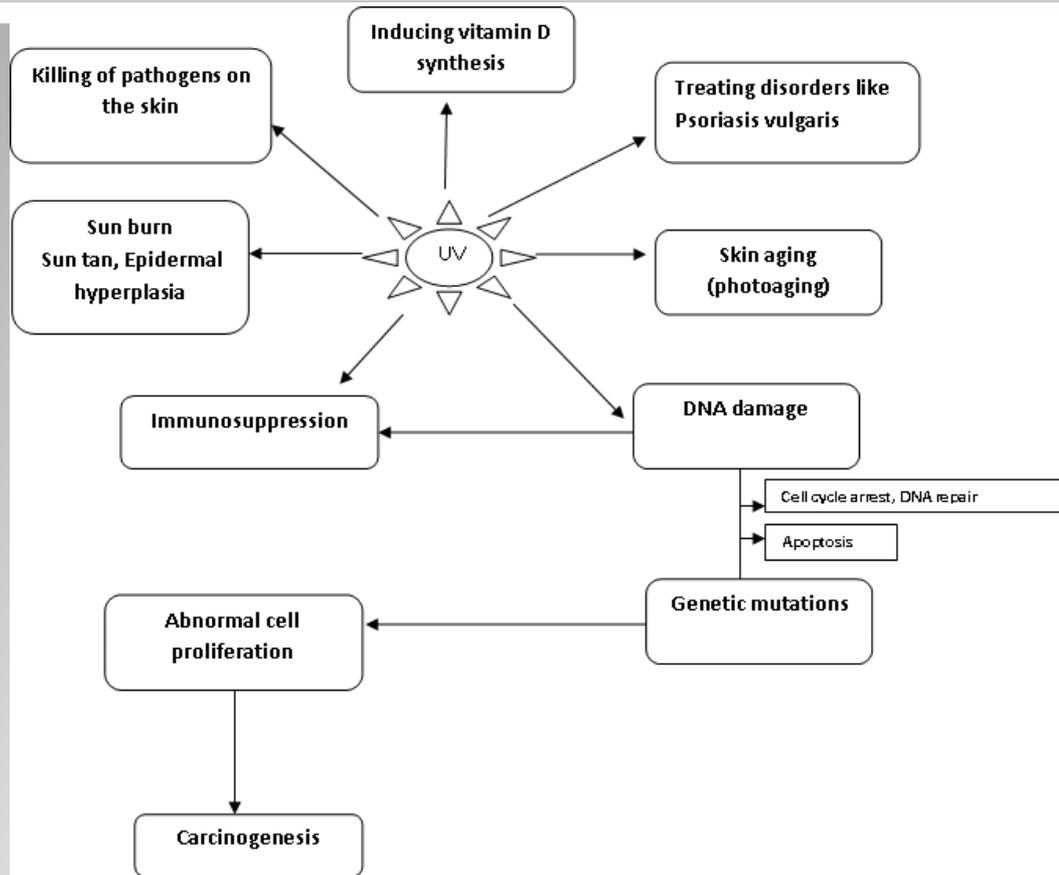
- Tyrosinase is a melanogenic copper-containing enzyme that catalyzes the transformation of tyrosine to dopaquinone.



- Responsible for melanization in plants and animals, which leads to – sometimes **undesirable** – browning.

# MELANOGENESIS



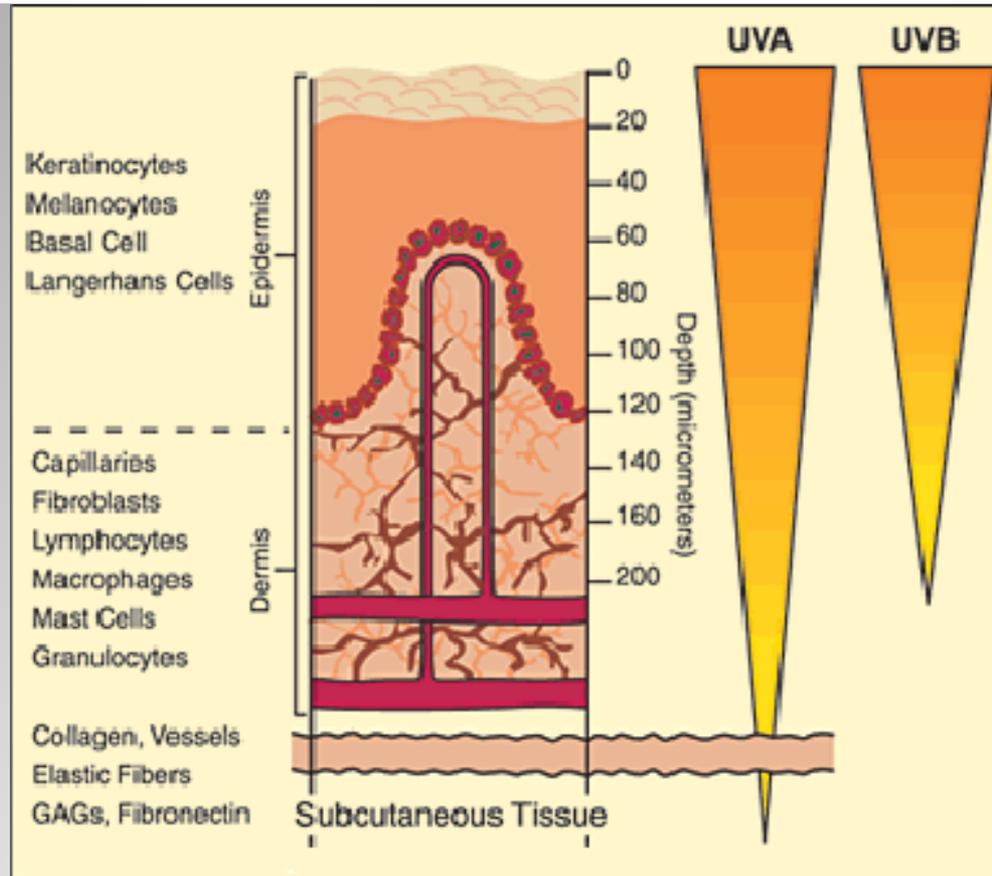


**Effects of UV radiation on the skin are both beneficial and harmful. It induces synthesis of vitamin D, killing of pathogens and treating the disorders like psoriasis.**

**On the other hand, they cause photoaging and skin cancer by making alterations in the cellular levels.**

# UV DAMAGE

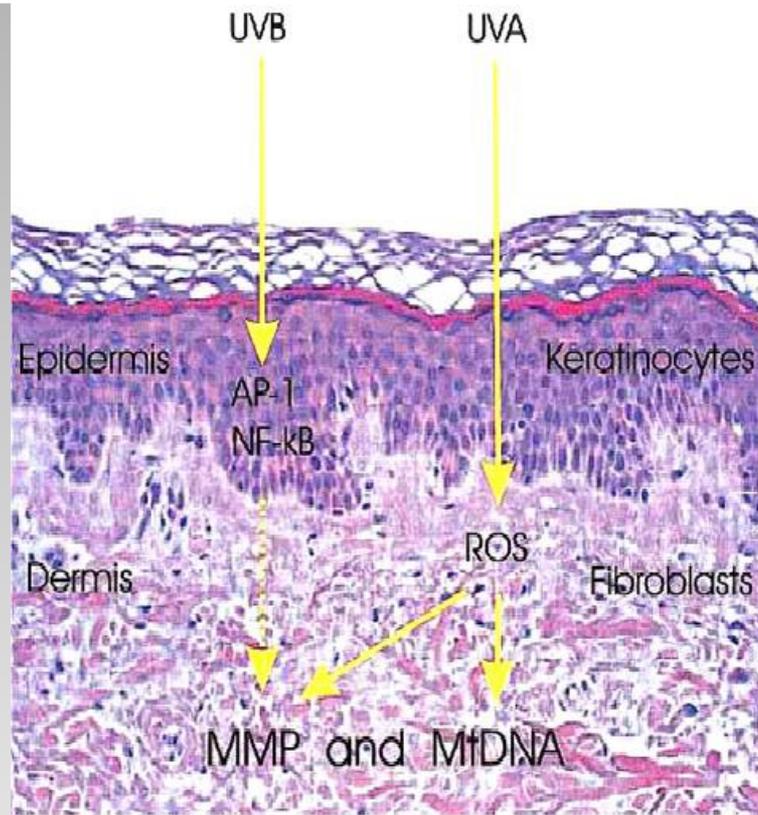




**Penetration capacity of UV radiation on the skin. UVA radiation penetrates deep until subcutaneous tissue whereas the penetrating ability of UVB shows that it pose cutaneous damage very frequently.**

**UV DAMAGE**



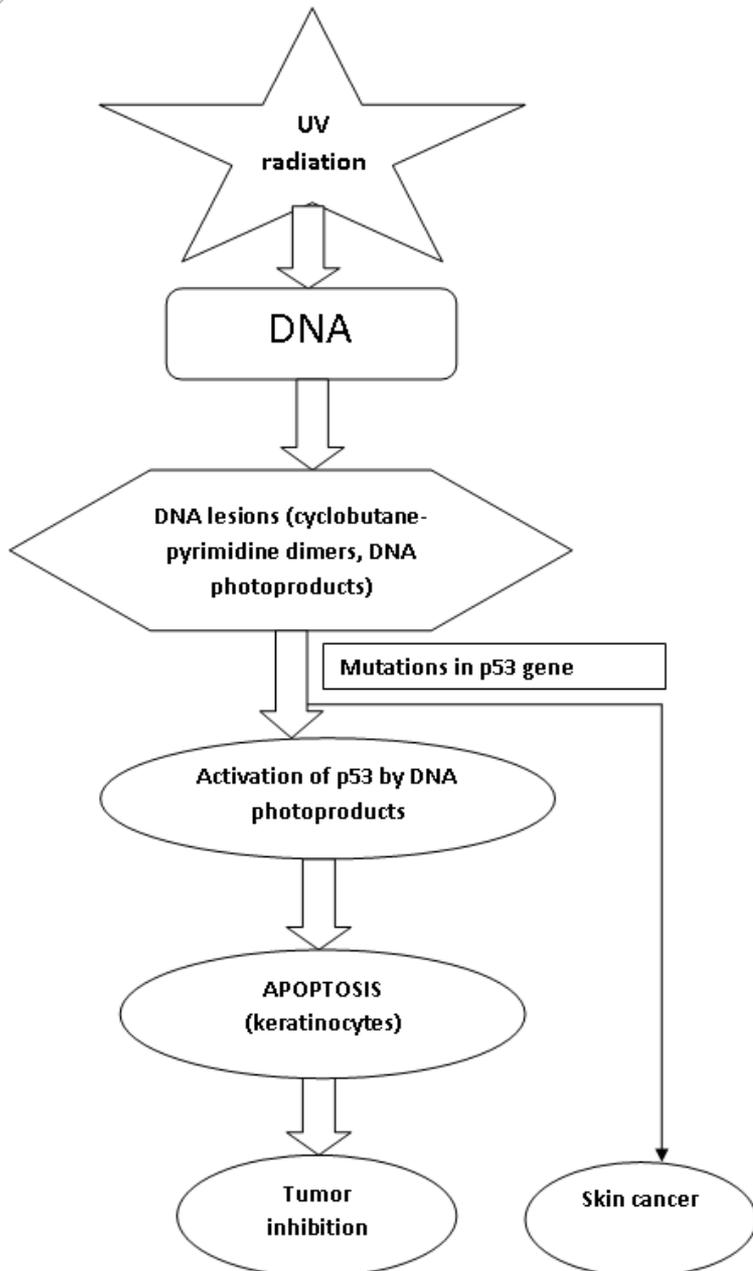


### **Photoaging of human skin.**

**When the epidermis of the skin absorbs the UVB radiation from the sunlight, it results in the induction of metalloproteinases (MMPs). The penetration of UVA deeper in dermis also induces the MMPs. As a result, the proteins present in the extracellular matrix are degraded that favours the wrinkle formation.**

# **UV DAMAGE**





**Damage of DNA due to UV radiation and the development of cancer.**

**The DNA lesions are produced after long term exposure to UV radiation.**

**The tumor suppressor gene (p53) recognises the DNA lesions and it undergoes programmed cell death in normal cells.**

**But the mutations in p53 gene will promote the development of skin cancer.**

**UV DAMAGE**

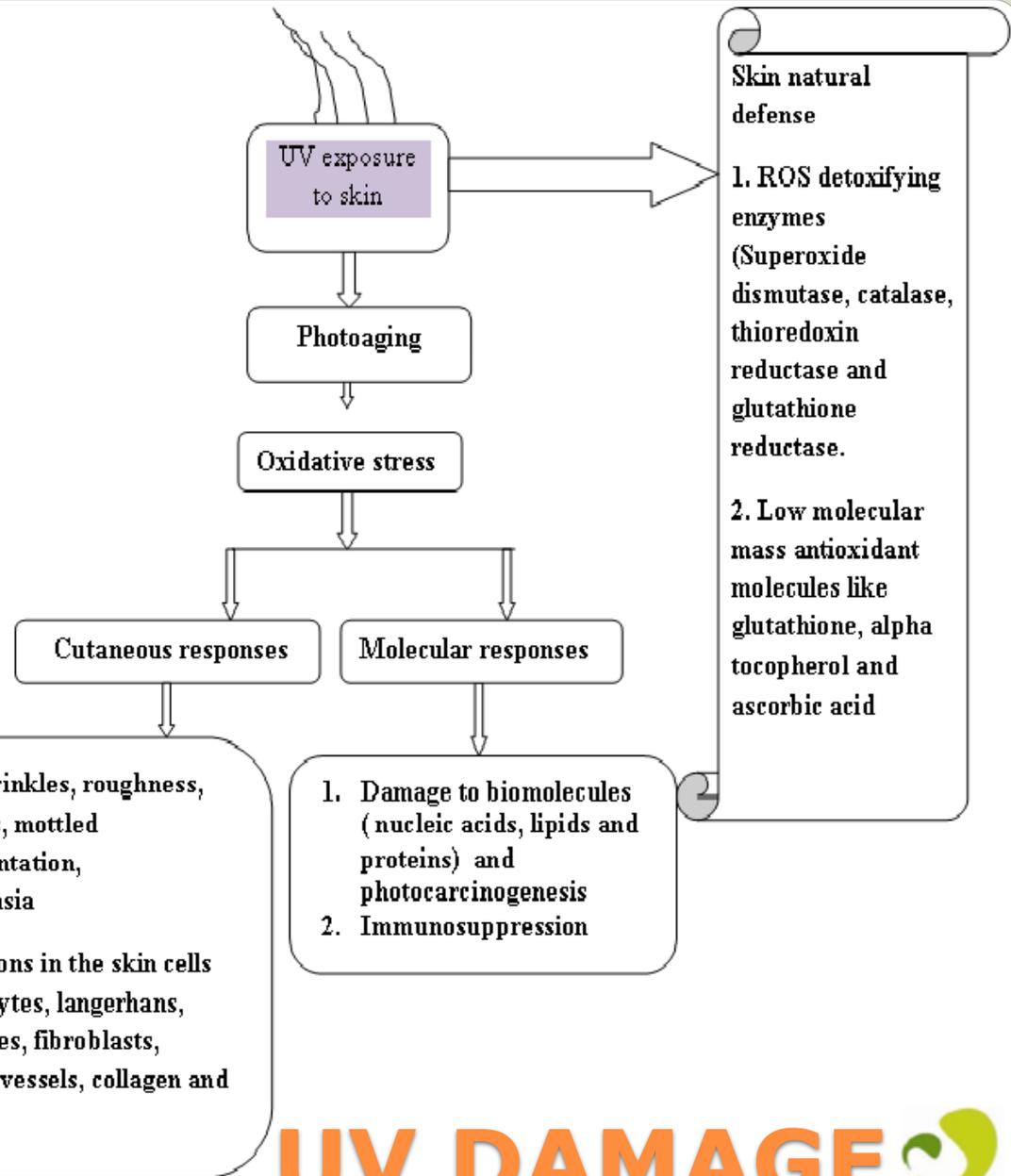


## Effects of UV radiation.

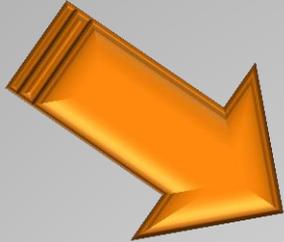
The dermal tissue is usually protected by the antioxidant defense molecules.

If the balance is not maintained between prooxidants and antioxidants, skin structure sensitizes the oxidative stress.

The exposure of UV radiation on the skin generates oxidative stress resulting in structural and functional changes in the epidermis and biomolecules present within the cell.



# UV DAMAGE



**In recent times and due to their protective effect against the harmful substances Botanicals are becoming important as active ingredients for cosmetic formulations.**

**BOTANICALS AS PHOTOPROTECTIVES**

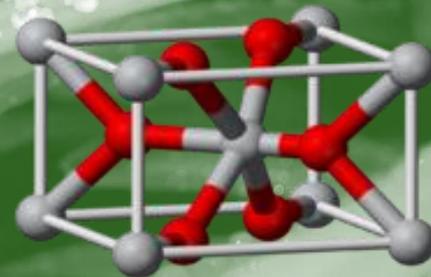
❖ **The use of active photoprotectives from natural origin is very beneficial in combating the deleterious effects of UV rays.**

❖ **The important group of compounds acts as the UV blockers include phenolic acids, flavonoids and high molecular weight polyphenols.**

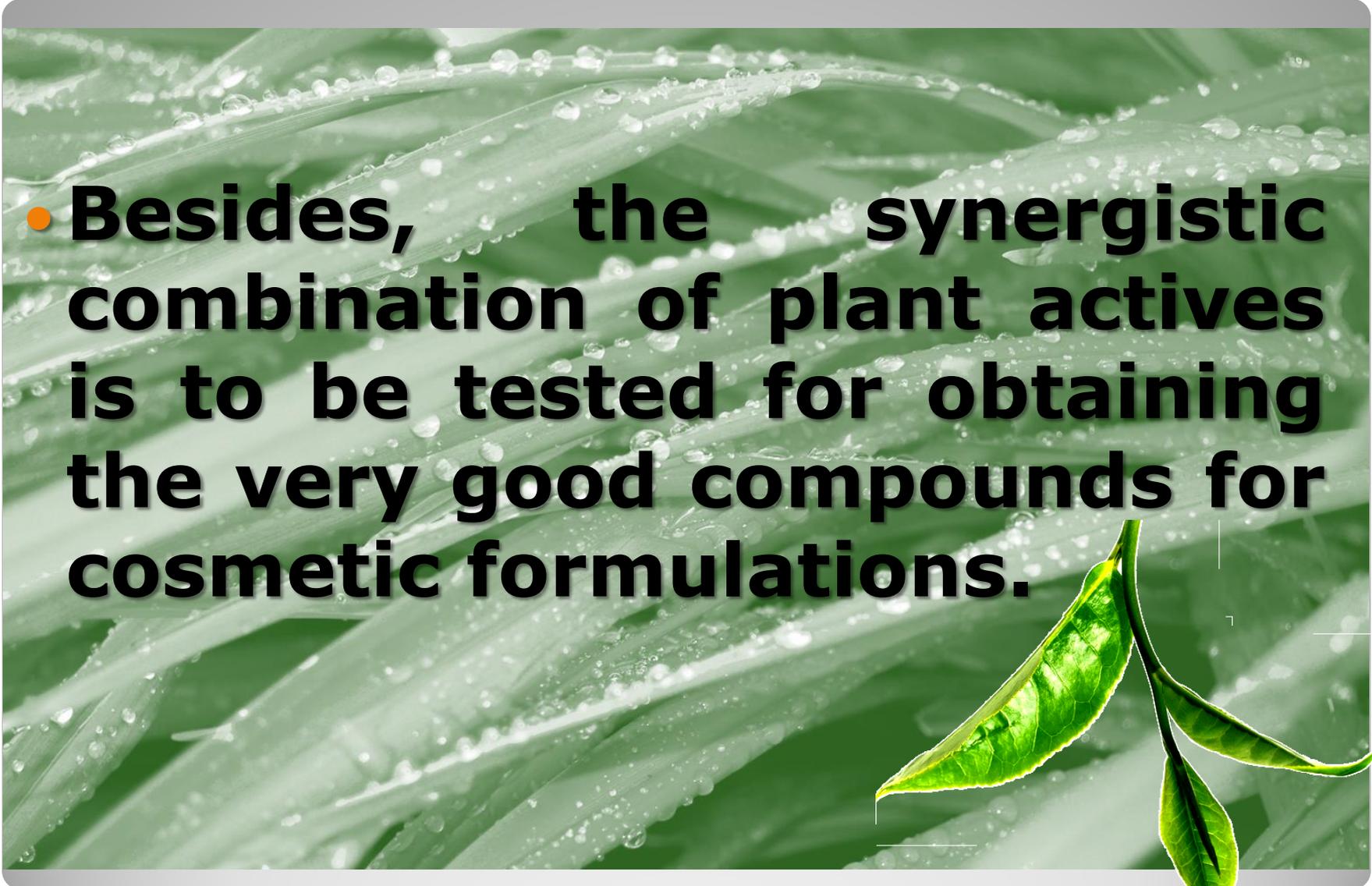


**BOTANICALS AS PHOTOPROTECTIVES**

**The use of botanicals as photoprotectives has been gaining significant attention of researchers due to their safety, multiple biological actions on the skin and cost effectiveness.**



**BOTANICALS AS PHOTOPROTECTIVES**

- 
- A close-up photograph of green leaves with numerous water droplets on their surfaces, creating a fresh and natural aesthetic. The leaves are layered, with some in sharp focus and others blurred in the background.
- **Besides, the synergistic combination of plant actives is to be tested for obtaining the very good compounds for cosmetic formulations.**

**BOTANICALS AS PHOTOPROTECTIVES**

- **In the Western culture it is still considered desirable to obtain a (bronze) tan.**
- **In the Eastern world, however, a centuries long tradition exists whereby a light complexion is regarded as equivalent to youth and beauty.**



**SKIN WHITENING**

- **In recent years, the interest in skin whitening has grown tremendously.**
- **The accumulation of an abnormal amount of melanin in different specific parts of the skin resulting in more pigmented patches might become an esthetic problem.**

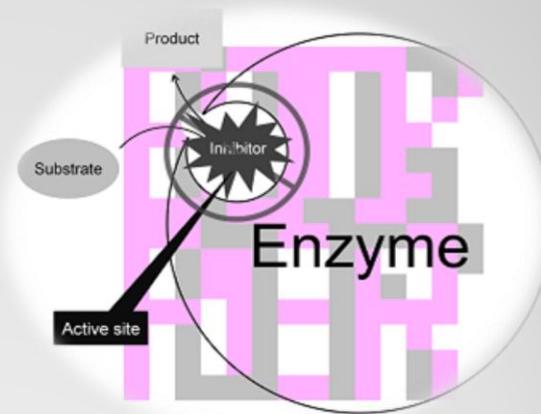


**SKIN WHITENING**





- **A number of tyrosinase inhibitors from both natural and synthetic sources have been identified.**



**TYROSINASE INHIBITORS**



- ✓ Hydroquinone may act as a carcinogen. 
- ✓ Kojic acid is banned in some markets and it is limited in others. 
- ✓ Mercury compounds are banned. 

## DISADVANTAGES



PRODUCTS OF NATURAL SOURCES ARE  
PREFERRED AND WILL PREDOMINATE IN  
THE COSMETICS MARKET.



**HYDRACARE  
LIGHTENING**

**CONCLUSION**



❖ Based on natural extracts



RHEUM RHAPONTICUM ROOT EXTRACT



ALOE BARBADENSIS  
LEAF EXTRACT



GLYCYRRHIZA  
GLABRA ROOT EXTRACT

# HYDRACARE LIGHTENING

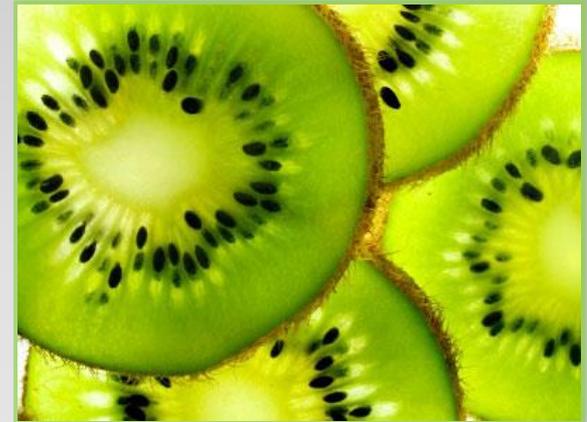


# ❖ Based on vegetable oils

CAMELLIA JAPONICA SEED OIL



OXALIS TRIANGULARIS SEED OIL



ACTINIDIA CHINENSIS SEED OIL

# HYDRACARE LIGHTENING



❖ Contains anti-aging products



SOLANUM LYCOPERSICUM FRUIT EXTRACT



CURCUMA LONGA



**HYDRACARE LIGHTENING**





# ***PATCH TEST***



MORE THAN 99.9 %  
OF NATURAL  
ORIGIN

HYDRACARE LIGHTENING



## CONCLUSION

**EVOIL HYDRACARE  
LIGHTENING** can be  
considered as  
**NON IRRITANT**  
regarding its primary  
skin tolerance.

**Panel:** 11 healthy adult volunteers.

**Result:** The average irritant score of the product is 0.00.

**PATCH TEST**



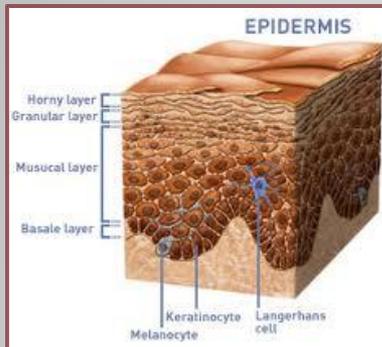


***IN VITRO EVALUATION OF  
WHITENING ACTIVITY ON  
THE TEST PRODUCT EVOIL  
HYDRACARE  
LICHTENING USING  
RECONSTRUCTED HUMAN  
EPIDERMIS (RHE)***



❖ The test was performed on reconstructed *in vitro* epithelia.

Reconstructed Human Pigmented Epidermis (RHPE) from SkinEthic



**NO RECONSTRUCTED EPIDERMIS**

**EXPERIMENTAL PROCEDURE**





*( A ) Tissue without melanocytes; ( B ) Phototype II tissue; ( C ) Phototype IV tissue; ( D ) Phototype VI tissue.*

<b>Skin type</b>	<b>Typical Features</b>	<b>Tanning ability</b>
I	Pale white skin, blue/hazel eyes, blond/red hair	Always burns, does not tan
II	Fair skin, blue eyes	Burns easily, tans poorly
III	Darker white skin	Tans after initial burn
IV	Light brown skin	Burns minimally, tans easily
V	Brown skin	Rarely burns, tans darkly easily
VI	Dark brown or black skin	Never burns, always tans darkly

# **EXPERIMENTAL PROCEDURE**



Table 1. Cell viability evaluation of treated tissues (test sample and positive control) of RHPE.

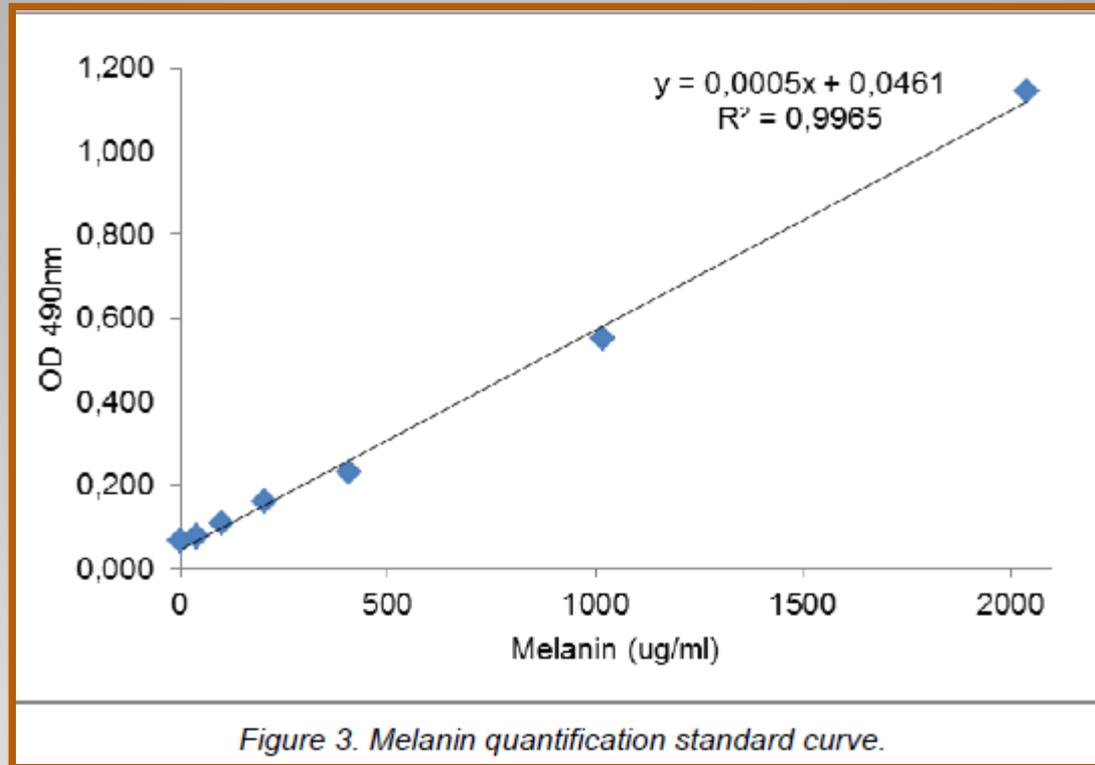
Sample	% cell viability (4 doses)
EVOIL HYDRACARE LIGHTENING REF. TX008433 M130227-A	65.3%
2% Ascorbic Acid solution	81.2%

**CONCLUSION**

**EVOIL HYDRACARE  
LIGHTENING did NOT SHOW  
CITOTOXIC EFFECTS** on the  
*in vitro Reconstructed  
Human Pigmented Epidermis*

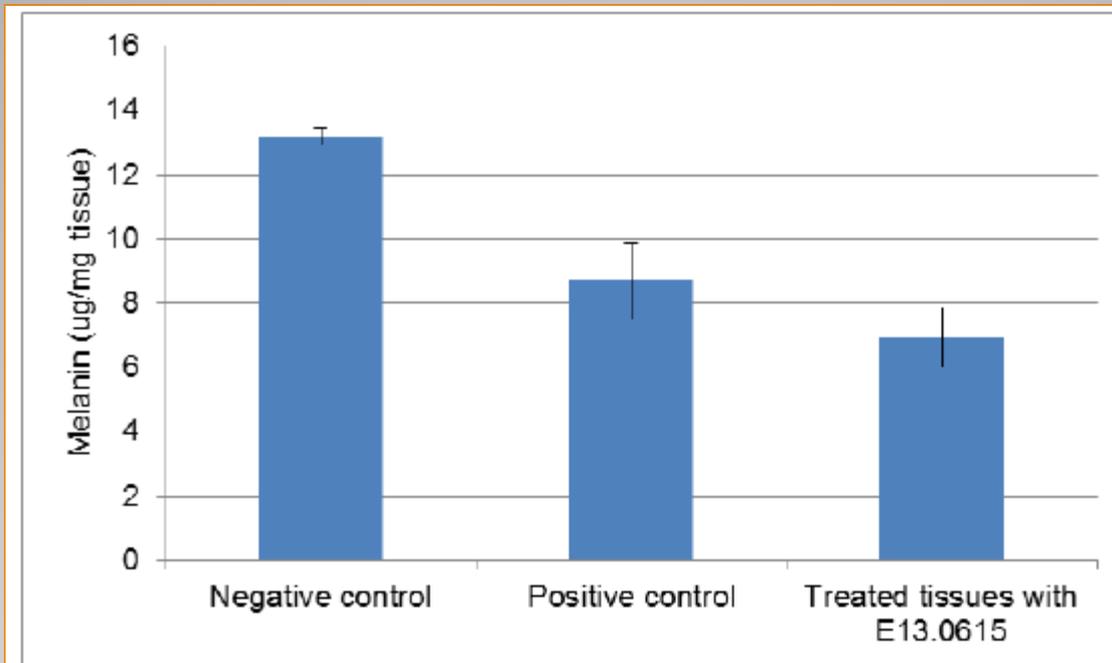
**CELL VIABILITY EVALUATION BY  
MTT ASSAY**





# MELANIN QUANTIFICATION





*Melanin quantification in RHPE treated tissues. The quantity of melanin in the average value of three replicates (three treated tissues).*

# **MELANIN QUANTIFICATION**

## CONCLUSION



**EVOIL HYDRACARE  
LIGHTENING  
SHOWED  
WHITENING  
ACTIVITY** at a  
concentration of 100%  
when dosed 4 times  
(1  $\mu$ l per dose).

***MELANIN QUANTIFICATION***

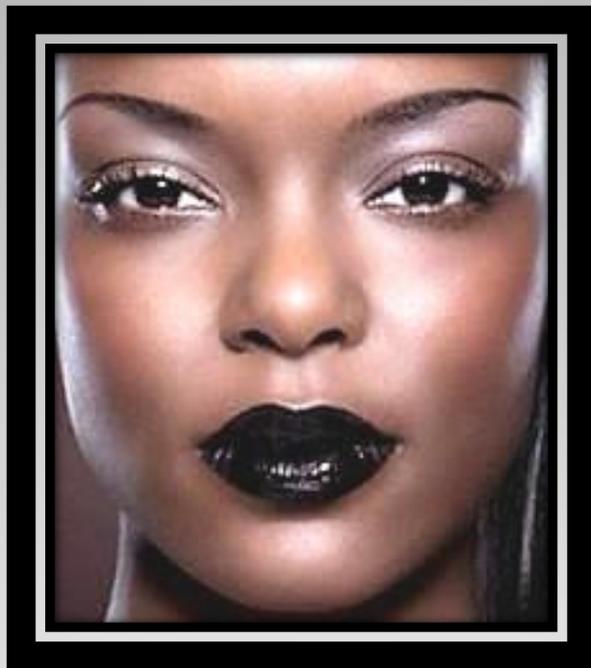


- ✓ Soluble in oils 👍
- ✓ Not banned 👍
- ✓ Not producing side effect 👍
- ✓ High stability 👍



**ADVANTAGES**





**REDUCED MELANIN  
47 % AFTER ONLY 4  
APPLICATIONS**



# THANK YOU!!!

