



pro-structure



**Reticulates** on skin and hair improving elasticity, firmness and protection

*phenbiox*



# Pro-Structure

- hair-care Pro-structure is a powerful antioxidant with phenolic active principles able to reticulate on skin and hair
- skin-care reconstituting them and providing an effective protection from radicals caused by UV and pollution.

INCI NAME (CTFA): Hydrolyzed Walnut Extract

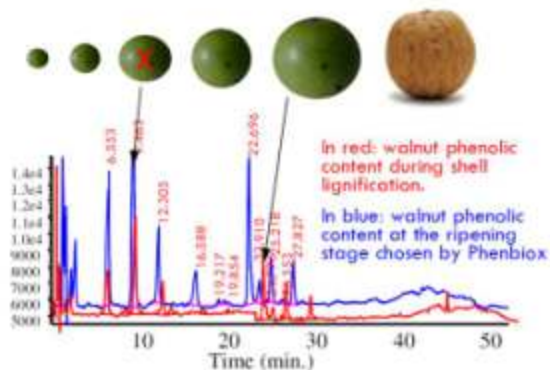
SUGGESTED CONCENTRATIONS: SKIN-CARE: 2,5% – 5%

HAIR-CARE: 1% – 5%

## Product development

In our laboratories we have spotted out a particular stage of walnut ripening when the green walnut is more rich of active principles and reticulating agents for proteins: the STRUCTURAL PHENOLS.

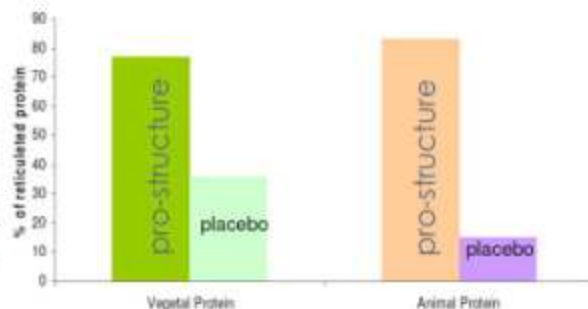
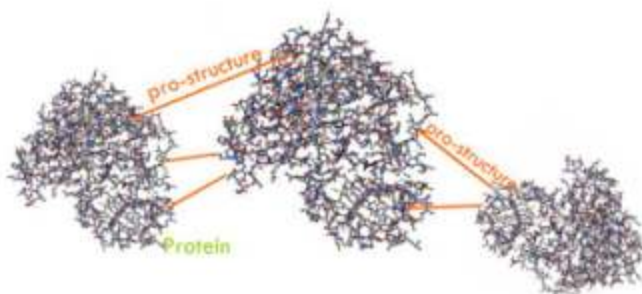
HPLC spectra allow to well understand the relevant differences in green walnut phenolic composition at different ripening stages.



PhenbioX's Molecular Bioliquefaction technologies allow to make the complete structural phenolic mix of green walnut, at the right ripening stage, 100% bio-available.



On two proteins of different origin, animal and vegetal, reticulation tests has been performed in order to show the restructuring activity of pro-structure.

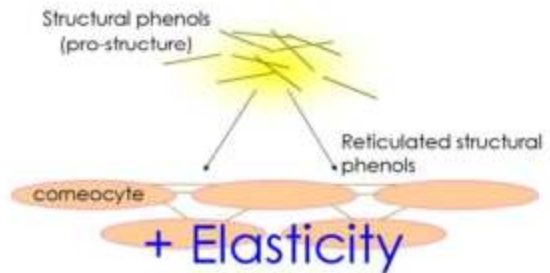




# Skin-Care

Ideal for body, face and décolleté products

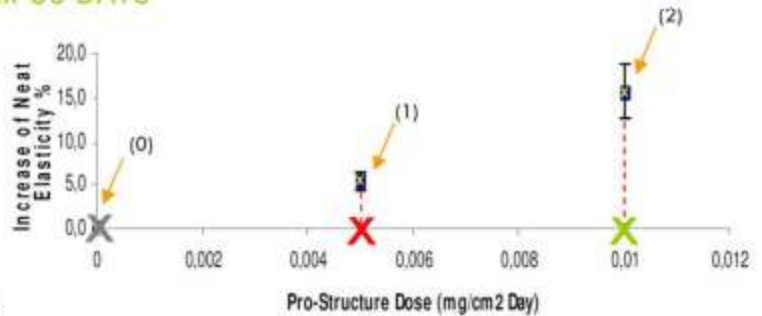
Pro-structure due to its structural and bounding capabilities, creates new interactions between skin proteins. Skin become more **firm** and **elastic** thanks to **structural phenolics - proteins interactions** that occurs on skin surface. In vivo testing\* on healthy volunteers showed the dose dependent effectiveness of pro-structure of formulation containing our active principle.



## INCREASE OF DERMAL ELASTICITY AFTER 30 DAYS

Pro-structure in just 1 month was significantly improving skin elasticity.

This product is an innovative tool to confer new firmness and elasticity to face, body and décolleté contrasting skin aging.



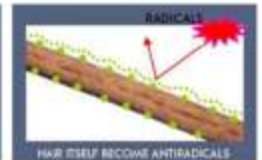
- X (0) Application of a Placebo formulation
- X (1) Application of a formulation containing Pro-Structure 5% once per day or 2,5% twice per day
- X (2) Application of a formulation containing Pro-Structure 5% twice per day or 2,5% four times per day

\* Tests were performed on 10 healthy volunteers of both sexes. Two formulations containing different percentage of Pro-Structure were compared to a Placebo formulation. All formulation were applied on forearm once per day for 30 days and results are expressed as percentage of increased neat elasticity  $\pm$  SD (%). Statistical significance Student t test  $p < 0,05$ .

# Hair-Care

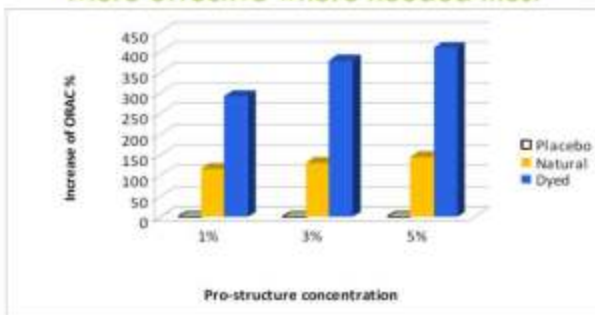
Ideal for dyed hair

Using Pro-Structure hair itself become an active principle, from the first application and even after rinsing:



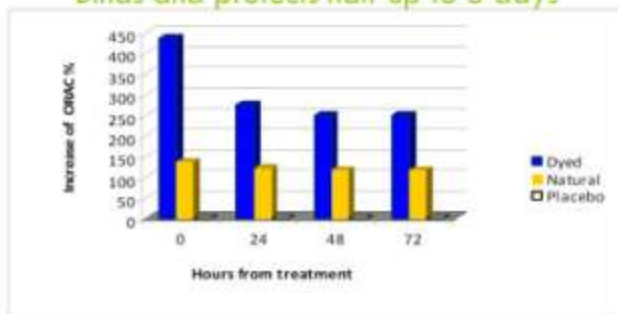
Pro-structure is a powerful antioxidant able to make the hair itself antioxidant binding hair proteins. Tests has been performed on several different kind of hair: straight, curly, dyed and natural. Hair were treated with Pro-structure (1-5%) for 5 minutes and rinsed with water.

## More effective where needed most



Both natural and dyed hair drastically increase their antioxidant capacity being very efficiently protected from radicals. The protective effect of Pro-structure is more marked on stressed hair. Dyed hair, damaged by chemicals used in the colouring process, showed a better increase of their antioxidant capacity gaining therefore an enhanced protection.

## Binds and protects hair up to 3 days



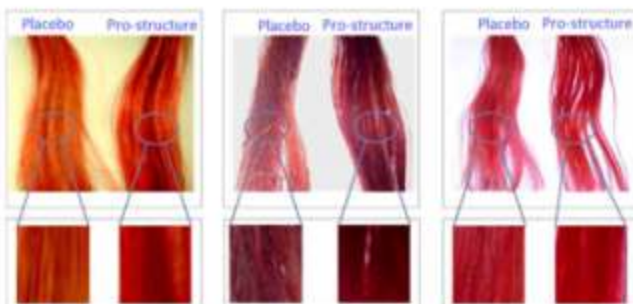
Pro-structure's hair protection is a long lasting protection. 72 hours (THREE DAYS) after treatment hair is still very effectively protected from radicals keeping an high antioxidant capacity.

## Hair-Care

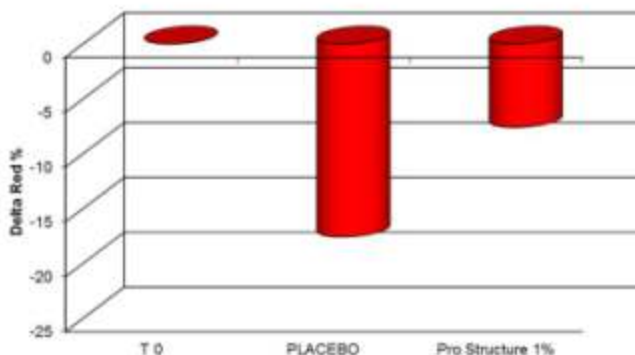
Colours protection

To better appreciate the protective effect that Pro-structure has on dyed hair, samples were treated with lotion containing 1% of Pro-Structure vs. a placebo preparation than both were exposed for 48 hours to UV radiations.

Different red dye were reported in picture as these are the most sensitive colour to UV degradation



The antiradical protection conferred by the active antioxidant fraction of Pro-structure is able to preserve the dye molecule, hampering the UV/radical mediated disruption of colours.



Hair dye protection vs. placebo + 53%

AN HAIR CARE COSMETIC FORMULATION CONTAINING 1% OF PRO-STRUCTURE IS ABLE TO PROTECT THE HAIR DYE VERY EFFECTIVELY FROM DEGRADATION

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