

Farcoderm study N° E.EX.031-MS03_2018/1478 – 25/05/2018: ex vivo assessment of the efficacy of Cynatine® TOP, a cosmetic ingredient, in protecting hair structure from UV exposure.

The study's aim is to assess the efficacy of a cosmetic ingredient - CYNATINE® TOP- in protecting hair structure from UV exposure. For this study, hair locks of human origin were used. The hair lock has a morphology both macro- and microscopic like that of the human hairs *in vivo*.

Experiment:

- Hair locks are immersed in a 0.5% water solution of CYNATINE® TOP and hair locks are immersed only in water (negative control).
- After drying hair locks are exposed to 3600 KJ x m⁻² UV dose, corresponding at about 5 hours UV sun exposure at the European latitudes, using a solar simulator.

Evaluated parameters:

- Total protein content is measured according to Lowry method.
- Total antioxidant capacity -the hair ability to resist the damage induced by free radicals- is measured by means of the Ferric Reducing Antioxidant Power (FRAP) assay.
- Combing: The investigator counts the number of comb passes needed to perfectly detangle the hair.

Results:

	Untreated hair locks		CYNATINE® TOP treated hair locks	
	Before	After	Before	After
FRAP ($\mu\text{M Fe}^{2+}$)	---	572.8 \pm 38.4	---	644.9 \pm 42.2 (+12.6%)
Protein content (μg)	---	88.2 \pm 8.5	---	105 \pm 7.1 (+19.1%)
Combing (no.)	6.2 \pm 0.8	10.4 \pm 1.1	7.2 \pm 0.8	7.6 \pm 1.5

Table 1. The table summarizes the data obtained during the study. Data are reported as mean \pm std. dev. in their respective units. In bracket is reported the % variation vs. untreated hair locks

Conclusion:

After UV exposure CYNATINE® TOP:

- ✓ preserves and increases protein content in hair
- ✓ increases antioxidant capacity
- ✓ preserves hair combing