

COSMETIC

Scavenger potential

Intrinsic aging is a natural process leading to clinical and histological changes. The primary cause is the imbalance between ROS production and neutralization by natural antioxidant systems. UV radiation is the predominant cause of cutaneous oxidative stress, causing photoaging (extrinsic aging), characterized by cellular damage, inflammation, immunosuppression and extracellular matrix remodeling. These effects are directly and indirectly linked to ROS production¹. Some compounds are capable to protect keratinocyte from UV-induced oxidative stress by scavenging various free radicals.

Test system: HEKn (primary human epidermal keratinocyte) – Invitrogen®.

Main Read-outs: Fluorescence intensity in 490 nm (excitation) and 530 nm (emission).

Experimental number: Three per group in triplicate.

Reference Item: Ascorbic acid.

Validation Data

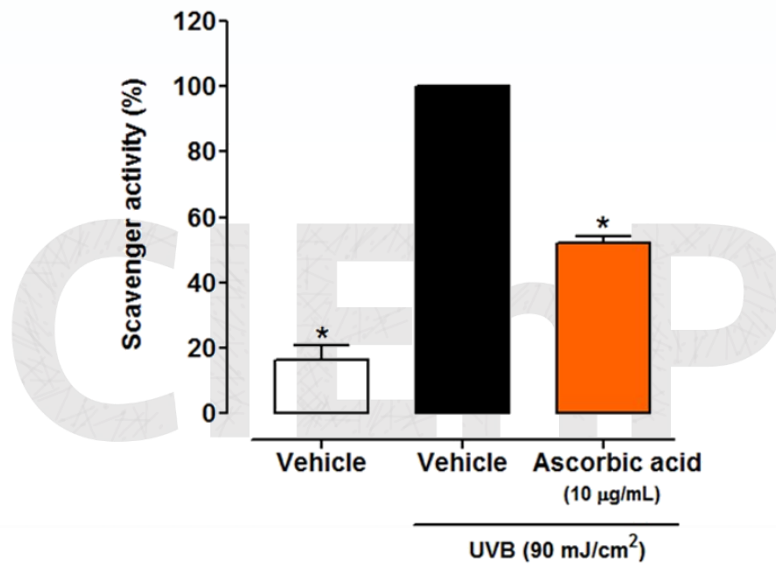


Figure: Scavenger activity of ascorbic acid after UVB stimuli. The figure represents the antioxidant activity of ascorbic acid after UVB radiation compared with control group. Each column represents the mean ± SEM of 3 per group in triplicate. Statistical analyses used was one-way ANOVA with a Tukey test. *P < 0.05 versus vehicle group.

To avoid bias and to allow reproducibility and reliability of all in vitro experiments we follow the guidance on good cell culture practice². All in vitro experiments are performed in triplicate wells for each condition and repeated at least three times.

References:

- ¹Bosch R; Philips N; Suaárez-Pérez JA. Mechanisms of photoaging and cutaneous photocarcinogenesis, and photoprotective strategies with phytochemicals T. Antioxidants. 2015, 4(2): 248-268.
- ²Coecke S; Balls M; Bowe G; Davis J; Gstraunthaler G, Hartung T, Hay R, Merten OW, Price A, Schechtman L, Stacey G, Stokes W. Guidance on good cell culture practice: a report of the second ECVAM task force on good cell culture practice. Altern Lab Anim. 2005, 33(3):261-87.