



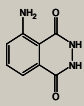
# AMBROSIALAB

health and wellness research

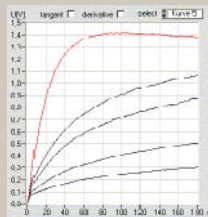
## IN VITRO EVALUATION OF ANTIOXIDANT CAPACITY OF INGREDIENTS AND FINISHED PRODUCTS CONTAINING THEM

**ANALISYS PLC**

Inhibition of photo-induced autoxidation of luminol, promoted by  $O_2^{\cdot-}$ : Strong Chemiluminescence  
Very rapid, suitable for lipid and water soluble antioxidants and complex matrix



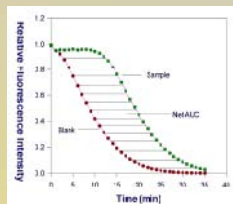
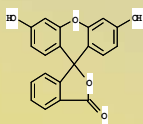
Protocol ACL  
Photochem®



In the PCL (Photochemiluminescence) assay the photochemical generation of free radicals is combined with a sensitive detection by using chemiluminescence. The PCL is based on the inhibition of photo-induced autoxidation of luminol, mediated from the radical anion superoxide ( $O_2^{\cdot-}$ ), by antioxidants and is suitable to measure the radical scavenging properties of single antioxidants as well as more complex systems in the nanomolar range. The PCL can be conducted by two different protocols ACW and ACL that consent to measure the antioxidant capacity of the water- and lipid-soluble components respectively. According to that we have introduced a new parameter, termed IAC® (Integral Antioxidant Capacity), which represents the sum of the antioxidant capacity of both phases. The results are expressed as mmol equivalents in antioxidant activity of a reference compound (i.e. the synthetic vitamin E analog Trolox).

**ORAC Assay**

The ORAC assay measures the scavenging capacity of antioxidants against the peroxyl radical. The change of fluorescence intensity is an index of the degree of free radical damage



The final ORAC values are calculated by using a regression equation between the Trolox concentration and the net area under the FL or PE decay curve and are expressed as micromol Trolox equivalent (TE) per gram

$$AUC = 1 + \sum_{i=1}^{n-1} f_i f_0$$

## IN VIVO EVALUATION OF ANTIOXIDANT CAPACITY OF INGREDIENTS AND FINISHED PRODUCTS CONTAINING THEM<sup>1</sup>



The technique is based on DermAnalyzer®, a software program by us developed, using the CIE L\*a\*b\* space colour system. Consents image storing for follow-up studies and to support the scientific report.

This model of skin ageing, by us developed, is based on the induction of a micro-oxidative, damage which is comparatively evaluated with DermAnalyzer®. It is an effective tool for the evaluation of in vivo efficacy of antioxidant/lenitive functional ingredients and cosmetic finished products.

<sup>1</sup>Patent Application

## MEASURE OF BASAL ANTIOXIDANT CAPACITY OF THE SKIN<sup>2</sup>

IAC-S®

Skin Integral Antiox Capacity



It represents a new tool, developed in our laboratories, for the in vivo evaluation of skin antioxidant capacity.

The protocol is well suited to evaluate, in a simple manner, the variations of basal skin antioxidant capacity upon topical application and oral administration of antioxidant ingredients and finished products. To support the claims of integration and reinforcement of the antioxidants skin physiological defences.

<sup>2</sup>Patent Application