

## Luminescence-based assays to evaluate the total antioxidant capacity of foods

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**Abstract** The diet is the main source of low molecular weight antioxidants which contribute to maintain a good redox balance inside the organism. The differences among species, varieties, maturation degree, and culture conditions, as well as the processing to obtain the final consumed products influence the content of the plants metabolites acting as antioxidants. Among the several assays evolved to determine this potential protective activity of food components we tested some chemiluminescent methods on wine, tea, beer, honey, and extra virgin olive oil. The Luminol/H<sub>2</sub>O<sub>2</sub>/Peroxidase luminescent system was applied to analyze wines at five different steps of winemaking and as final products. The same method has been applied to test the TAC values of tea infusions, different kinds of beer and unifloral honeys of different origin. In case of olive oil the hydrophilic and lipophilic components have been separated and luminescent assays different from the Luminol one have been carried out on the separated phases.

*Keywords:* Food antioxidants, wine, beer, honey, tea, virgin olive oil, chemiluminescence.

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