

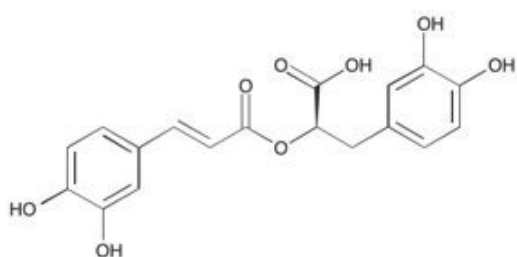
## Studies On Rosmarinic Acid And Its Derivatives

Giorgia Catinella, Giorgio Rizzo, Sergio Rosselli, Paolo Lo Meo, Maurizio Bruno

Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STEBICEF), University of Palermo, Viale delle Scienze, Ed.17, 90128, Palermo, Italy

E-mail: [giorgia.catinella@gmail.com](mailto:giorgia.catinella@gmail.com)

Rosmarinic Acid (RA) is an ester of caffeic acid and R-3,4-hydroxyphenyllactic acid.



This natural product occurs in several medicinal plants of the Lamiaceae family, such as rosemary (*Rosmarinus officinalis* L.), lemon balm (*Melissa officinalis* L.) and thyme (*Thymus vulgaris* L.).<sup>1</sup>

Different studies have shown many biological and pharmacological activities; due to its phenolic nature, RA exhibits an exceptional antioxidant activity, but other proprieties as anti-inflammatory, antimutagenic, cytotoxic, antimetastatic were found.<sup>2</sup>

In particular Rosmarinic Acid and its amino derivatives were shown to be type-C inhibitors for tyrosine kinases.<sup>3</sup>

For these reasons we decided to optimize an extraction of RA from dried leaves of rosemary. Later we synthesized some RA derivatives, in order to substitute the carboxylic acid of rosmarinic acid with different moieties.

Moreover we take an interest in inclusion complexes of rosmarinic acid and its derivatives with different nanosponges of cyclodextrin and calixarene.

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