

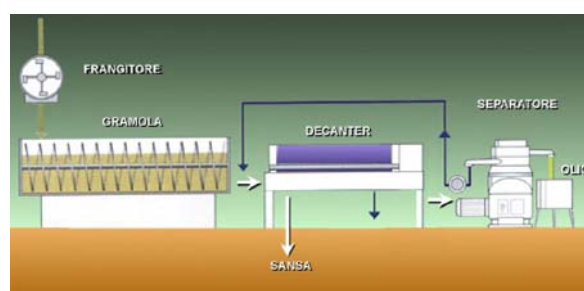
Production and characterisation of high anti-oxidant and radical scavenging activity of plant products

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Today many researches are addressed to antioxidant and anti-radical products, able to prevent the ageing. For this reason they are applied to different sectors like pharmaceutical, alimentary and cosmetic one. Our researches refer to an anti-oxidant, synergic and radical scavenging mixture, obtained by olive pressing. Specifically it concerns the reclamation, from waste water, of high surplus value, which can be used in mentioned sectors. This mixture has a higher activity if compared with reference prototypes, as E-vitamin.



Olive



The process to obtain olive oil

1. Description of the product

The process to obtain olive oil yields by-products, such as pressed olive paste and waste waters. Waste waters are not toxic for humans, but produce environment pollution. New technologies have been developed to reduce their “pollution power” by chemical and biological treatments. Other studies have revealed their antioxidant, anti radical scavenging activity. We developed a process to drain and rescue waste waters for use them in different industrial sectors. Most of the processes described in the literature deal with purification of such waste waters from polluting compounds (phenols and polyphenols) using enzymatic or oxidative approaches. Only few cases consider the recovery of these compounds, that are generally extracted with organic solvents.

2. Innovative aspect of the product

The method we propose doesn't require the use of organic solvents and offers a complete recovery of active components with good reproducibility.

3. Main advantages of the offer

This method produces a synergic and standardised mixture of substances (without organic solvents), such as phenols and polyphenols, that we offer for:

- generic use as anti-oxidant
- dietary and nutritional use in balanced diets for prevention of cardiovascular pathologies or atherosclerosis, melanoma and skin carcinoma, Parkinson, Alzheimer disease and rheumatoid arthritis
- use as additives in cosmetic products, as radical scavenging action filter, antiaging, in the prevention of the early skin ageing by solar radiation or polluting agents.

This mixture can be easily applied in gels or emulsions because it is not light-sensitive, can be well tolerated by the skin, being non irritant or allergenic.

Experimental tests showed that the concentrations of active substances in this mixture present reproducible values between different preparations and constant for long time, when stored in appropriate conditions. Activity tests showed that our synergic mixture presents a higher activity when compared with that of individual components and of examples reported in the literature.

4. Technology key words

Antioxidants, radical scavengers, olive oil waste water, recovery.

5. Current Stage of Development

A new method of obtaining the synergic mixture was patented.

6. Intellectual Property Rights

The product is covered by patent.

Technical and scientific publications

C. Anselmi, M. Andreassi, M. Centini, R. Maffei Facino, M. Carini. "Miscela ad elevata attività antiossidante sinergica e radical scavenging di origine vegetale e suo procedimento di produzione. Domanda di brevetto n° FI 2000 A000233 del 9 Novembre 2000.

C. Anselmi, A. Bottino, G. Capannelli, M. Centini, R. Maffei Facino. "Procedimento per il trattamento delle acque reflue da lavorazione degli oli di oliva e simili per l'ottenimento, per via naturale, di antiossidanti per impieghi farmaceutico, cosmetico ed alimentare". Domanda di Brevetto n° FI2006A000318 del 12/12/06.

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