



NOVEL COSMECEUTICALS AND FOOD SUPPLEMENTS FROM EXPLOITATION OF AROMATIC PLANTS' BY-PRODUCTS

EXANDAS is the acronym of a research **European project** which aims to apply emerging and cutting edge technologies in the field of Natural Products in order to fully and efficiently exploit the therapeutic potential of medicinal and aromatic plants processing waste and by-products. The consortium consists of six academic and six SMEs partners, which under the coordination of **Dr. Nektarios Aligiannis**, Associate Professor at the Department of Pharmacognosy and Natural Products Chemistry (Faculty of Pharmacy, University of Athens), will join forces and exchange know-how through an extended secondments scheme to advance Research & Innovation:

- **Academic partners:** National and Kapodistrian University of Athens (GREECE), Bulgarian Academy of Sciences (BULGARIA), Universite Paris Descartes (FRANCE), Centre de Biotechnologie de Sfax (TUNISIA), University Ibn Zohr (MOROCCO), Centre de Recherches en Analyses Physicochimiques (ALGERIA).
- **Non-academic partners:** Iasis Pharma (GREECE), Chios Mastic Growers Association (GREECE), Venus Roses Lab Solutions (BULGARIA), Galen-N (BULGARIA), VivaCell (GERMANY), Phycosource (FRANCE).

The duration of the project is four years and has a **total budget of 2.178.000 €**

The scientific concept of **EXANDAS** involves **the exploitation of aromatic plants' by-products for the development of novel cosmeceuticals and food supplements**. The cornerstone of **EXANDAS** project is the development of novel processes based on eco-friendly technologies for the efficient extraction, purification and transformation of active ingredients, as well as the complete chemical characterization and biological evaluation of produced extracts and pure compounds that can be commercially exploited. Optimization and scaling up of these procedures, as well as formulation using emerging technologies will lead to the development of novel final products.

In more details, byproducts and wastes from the industrial exploitation of mastic gum, rose, mountain tea, lavender, geranium and sweet basil will be selected. Improved techniques such as ASE, CPC, MAE etc. will be used to isolate, purify, and structurally characterize the active constituents that will be further investigated with the aim to be exploited commercially. A broad spectrum of bioassays will be incorporated for the evaluation of antioxidant, anti-inflammatory, antimicrobial and anti-aging properties activity of all derived extracts and products.

Using the experience of the academic partners in phytochemistry and natural product chemistry, as well as the practical experience of the SMEs in large scale processing of plant material and development of innovative final products, transfer of scientific knowledge, best practices and know-how will take place. The abovementioned objectives will be implemented through an extended and balanced scheme of researchers' exchanges, in both directions and via a mutual scientific project developed on the needs and interests of both industrial and academic sectors, exploiting the existing complimentary expertise.

Overall, the implementation of **EXANDAS** aspires to develop a successful and sustainable international and intersectoral collaboration model, which will contribute to the innovation potential of Europe for the most effective exploitation of natural resources and the development of novel cosmeceuticals and food supplements.

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