CARE 4BIO

Horizon Europe Brokerage Event
Cluster 6 Calls 2025
Warsaw, 27 May 2025

“Discovery of Phytoremediation Abilities of Symbiotic Bacteria Under Plant Tissue Culture Conditions”

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Topic(s) addressed:

- "This project aligns with the objectives of HORIZON-CL6-2024-BIODIV-02-2 (**Cluster 6 Food, Bioeconomy, Natural Resources, Agriculture, and Environment)** by exploring the potential of symbiotic bacteria in plant tissue culture conditions to enhance phytoremediation and contribute to sustainable environmental management."

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Project idea

Background & Concept:
Environmental pollution threatens biodiversity and food security. Phytoremediation, a sustainable solution, can be enhanced through plant-microorganizm interactions. This project explores symbiotic bacteria in plant tissue culture conditions to optimize pollutant degradation and improve environmental restoration

Objectives:
Identify symbiotic bacteria that boost phytoremediation. Develop in vitro models for microorganizm interactions. Assess bacteria's role in pollutant absorption and breakdown. Integrate findings into sustainable agricultural practices.

Consortium:
Collaboration with universities, research centers, and industry partners in bioremediation, microbiology, and sustainable agriculture to translate lab findings into real-world applications.
This project aligns with EU goals for zero pollution and environmental sustainability.

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Main expertise offered / sought

Expertise Offered:
We specialize in symbiosis and plant microorganism interactions in plant tissue culture conditions. Our expertise includes in vitro molecular farming methods and plant metabolite production pathways with symbiotic relations.

We accomplished some project in the area such as
- Analytical Pure Production of Visnagin, Diosgenin and Cannabinoids in Vitro Conditions (supported by KOSGEB)
-Symbiotic Relation Between Ammi visnaga and Rhizobium rhizogenes in Bioreactor Conditions (TÜBİTAK).
-Mathematical Modeling of Bioreaction Processes of Visnagin and Khellin (TUBİTAK) ,
-The Effect of Different Nitrogen Doses on Rhizobium Nodulation and Plant Development in Hydroponic Bean Culture (COMU-BAP),
-Heavy Metal Content of Cultivated and Natural Population of Sarıkız Tea (Sideritis trojana Bornm.) (Self funded)

Role in Project:
We aim to join as a partner, contributing experimental design and tissue culture applications.

We seek partners in:
Environmental monitoring & pollution assessment, soil/water contamination analysis, scaling phytoremediation for field applications, industry or policy-level implementation, open to collaboration with universities, research centers, SMEs, and policymakers.

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Contact details

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Margeht Biotechnology Ltd Co., is a microSME, founded in 2018 Canakkale/TURKEY, specializing in the research and development of herbal raw materials for medicinal use. With a dedicated Wet Lab and a small but highly skilled team, the company conducts annual R&D projects focusing on the standardization of plant-based pharmaceutical ingredients. MARGEHT has worked on over 120,000 plant species and continues active research on more than 50–100 of them.

Çanakkale Onsekiz Mart University (ÇOMÜ) is a public university located in Çanakkale/ Turkey offers a wide range of academic programs through its 18 faculties, 4 graduate schools, 13 vocational schools and serves nearly 50,000 students

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Thank you very much for your attention