Seeking expertise in supercritical CO2 extraction to isolate bioactive compound in propolis

Summary

Profile type	Company's country	POD reference
Technology request	**France**	**TRFR20260520018**
Profile status	**Type of partnership**	**Targeted countries**
PUBLISHED	**Commercial agreement with technical assistance** **Research and development cooperation agreement**	**• All countries**
Contact Person	**Term of validity**	**Last update**
Enrico FRANZIN	**26 May 2026** **26 May 2027**	**26 May 2026**

General Information

Short summary

A French company specialising in bee products is looking for a partner with expertise in supercritical CO2 extraction to develop a process aimed at isolating the bioactive compounds in propolis—particularly polyphenols and flavonoids—while reducing contaminants such as pesticides and polycyclic aromatic hydrocarbons (PAHs). Commercial agreement with technical cooperation or R&D partnership is sought. The goal is to obtain purer propolis extracts to be used as as ingredients for nutraceutics.

Full description

A pioneer in the field of natural bee products, the French company seeks to develop a new propolis processing technology based on supercritical CO_2 extraction. The aim is to selectively recover compounds of interest, particularly polyphenols, flavonoids, Artepillin C, and Biochanin A, while separating undesirable substances such as pesticide residues, heavy metals, and PAHs.

This process will make it possible to “decontaminate” propolis and obtain purer, better standardized extracts with improved quality and safety. It also will also address the need to diversify dosage forms, with the development of liquid extracts richer in active compounds or alternatives to traditional alcohol-based extracts, which are often highly concentrated in alcohol that has a negative effect on their aromatic properties.

The company, therefore, is looking to identify a partner with proven expertise in supercritical extraction, selective separation of natural compounds, and process optimisation for complex matrices. The desired collaboration could take the form of a research and development partnership or commercial agreement with technical support for process development, optimisation, and validation.

The ultimate objective is to enhance the value of propolis, improve its analytical quality, and develop new high value-added natural ingredients suitable for applications in dietary supplements, natural health products, or aromatic formulations.

Advantages and innovations

Technical specification or expertise sought

The right partner is expected to have strong expertise in supercritical CO_2 extraction processes applied to natural raw materials, ideally oils, resins, aromatic plants, or complex matrices comparable to propolis. Expertise in separating and extracting large molecules such as pesticides, heavy metals, and PAHs would be an advantage. Strong capabilities in selective fractionation, process parameter optimisation, and contaminant reduction are required.

The targeted know-how includes in particular:

- Selection of pressure, temperature, and potential co-solvent parameters
- Separation of target compounds from lipophilic or semi-volatile contaminants
- Recovery of fractions rich in polyphenols and flavonoids
- Evaluation of decontamination efficiency regarding pesticides and PAHs
- Development of low-alcohol or alcohol-free extracts
- Possible scale-up to pilot or pre-industrial level

This would require establishing a comprehensive experimental design to minimise the cost of trials.

Stage of development

Sustainable Development goals

- **Goal 12: Responsible Consumption and Production**
- **Goal 3: Good Health and Well-being**
- **Goal 13: Climate Action**

IPR Status

IPR Notes

Partner Sought

Expected role of the partner

The partner will contribute their scientific and technological expertise in the design, development, and optimisation of the extraction process. This may include defining operating conditions, conducting feasibility studies, optimising yield and selectivity, and characterising the obtained fractions.

The partner is also expected to support the French company in evaluating extract quality, particularly in terms of active compound content, contaminant removal, and final product stability. Depending on the partner's profile, the collaboration may include laboratory trials, pilot batches, comparative analyses with traditional extracts, and support for industrial scale-up.
The potential partner may be a technical center, specialised company, or R&D laboratory with solid experience in supercritical extraction and natural ingredient valorisation. Depending on their profile and expertise the collaboration may take the form of an R&D partnership or commercial cooperation with technical support

Type of partnership

Commercial agreement with technical assistance
Research and development cooperation agreement

Type and size of the partner

- **R&D Institution**
- **SME 11-49**
- **SME 50 - 249**
- **University**
- **SME <=10**

Dissemination

Technology keywords

- **05004005 - Sublimation**
- **08002003 - Safe production methods**
- **08001002 - Food Additives/Ingredients/Functional Food**
- **05004002 - Extraction**

Market keywords

- **07003002 - Health food**

Targeted countries

- **All countries**

Sector groups involved

- **Agri-Food**