

# Walnut Pellicle and Somatic Embryo Tissues as a Unique Plant Source of Bioactive Lipid Supplements

Tech ID: 33586 / UC Case 2024-561-0

## ABSTRACT

Researchers at the University of California, Davis have developed a method of enrichment of walnut-derived bioactive lipids and fatty acids for their application to improve human and plant health.

## FULL DESCRIPTION

This technology focuses on the enrichment of fatty acid compounds and bioactive lipids from walnut tissues and somatic embryos, targeting unconventional lipids with potential molecular bioactivities beneficial to human and plant health. Leveraging the nutritional and health-promoting aspects of walnuts, the method aims to harness specific fatty acids and lipids for their roles in reducing cardiovascular diseases, cancer risk, metabolic dysfunctions, and supporting cognitive as well as gut health through epigenetic cellular mechanism.

## APPLICATIONS

- ▶ Supplement industry for the development of health products enriched with walnut-derived fatty acids and bioactive lipids.
- ▶ Functional foods incorporating walnut-derived compounds to enhance nutrient profiles and promote health benefits.
- ▶ Nutraceuticals targeting specific health issues such as heart health, diabetes management, and cognitive support.
- ▶ Plant-based sources for development of lipid-based therapeutics.

## FEATURES/BENEFITS

- ▶ Utilizes walnuts, a naturally nutrient-rich source, to extract beneficial fatty acids and bioactive lipids.
- ▶ Potentially contributes to the prevention and management of chronic health conditions such as cardiovascular diseases, obesity, diabetes, and neurodegenerative diseases.
- ▶ Supports cognitive functions and gut health, enhancing overall well-being.
- ▶ Addresses the growing global demand for natural and nutritious food sources.
- ▶ Meets dietary recommendations and supports nutritional guidelines promoting walnut consumption for health benefits.
- ▶ Addresses global health challenges including cardiovascular diseases, metabolic dysfunctions, cognitive decline, and certain cancers.

## CONTACT

Prabakaran  
Soundararajan  
[psoundararajan@ucdavis.edu](mailto:psoundararajan@ucdavis.edu)  
tel: .



## INVENTORS

- ▶ Abbattista, Ramona
- ▶ Dandekar, Abhaya M.
- ▶ Dandekar, Satya
- ▶ Relyea, Dylan

## OTHER INFORMATION

### CATEGORIZED AS

- ▶ **Agriculture & Animal Science**
  - ▶ Nutraceuticals
  - ▶ Other

## RELATED CASES

2024-561-0

- ▶ Provides a solution to the lack of natural and effective sources of essential bioactive dietary lipids in Western diets.
- ▶ Fulfills the need for sustainable, plant-based sources of important nutritional compounds to support an aging population and a rise in chronic health conditions.

## **PATENT STATUS**

Patent Pending

## **ADDITIONAL TECHNOLOGIES BY THESE INVENTORS**

- ▶ [Cucumber Mosaic Virus Inducible Viral Amplicon \(CMViva\) Expression System](#)
- ▶ [Methods for Disrupting HIV Latency Using Anti-HIV Latency Agents](#)
- ▶ [In plantae production of heterologous proteins using viral amplicons](#)
- ▶ [Molecule for Repairing Leaky Gut And Restoring Energy Metabolism](#)

**University of California, Davis**

**Technology Transfer Office**

1 Shields Avenue, Mrak Hall 4th Floor,  
Davis, CA 95616

Tel:

530.754.8649

[techtransfer@ucdavis.edu](mailto:techtransfer@ucdavis.edu)

<https://research.ucdavis.edu/technology-transfer/>

Fax:

530.754.7620

© 2024, The Regents of the University of California

[Terms of use](#)

[Privacy Notice](#)