

## HIGHLY BIOCOMPATIBLE EXTRACELLULAR VESICLES FROM SUSTAINABLE SOURCES

A research group from CIBER, Institut d'Investigació Sanitària Pere Virgili and IMDEA Alimentación, has obtained biocompatible Extracellular vesicles (EVs) to be used as improved laboratory-based liposomal nanocarriers from Food Processing By-Products.

### The Need

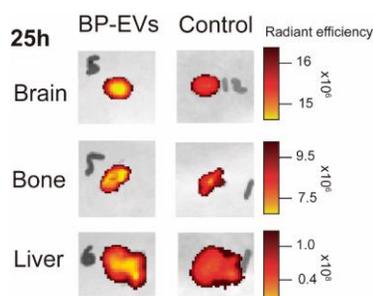
Extracellular vesicles (EVs) have largely demonstrated their ability to act as nanocarriers by significantly improving the bioavailability and target specificity of compounds of interest in animal and human bodies. However, their current translational use presents significant safety and cost-efficiency -related concerns mainly regarding the source of origin, which commonly are immortalized cell lines or lab-generated liposomal vesicles.

### The Solution

It has obtained biocompatible EVs from a novel, sustainable and unexplored source in an optimized and highly scalable manner. These EVs mimic the main characteristics of the biocompatible food EVs, which are ingested daily as they are present in regular foods (such as fermented products, milk or plant-derived foods), while widely improve over their compositions and obtention-related costs. Thus, it holds a great promise to boost and change the current nanocarriers fields at its basis from research laboratories to novel bioeconomy and pharmaceutical industries.

### Innovative Aspects

- Produced in a scalable manner from a sustainable sources (food processing by-products)
- Highly biocompatible with a demonstrated ability to cross and functionally act beyond the blood brain barrier.
- Can be custom modified and edited to be used as nanocarriers in different industries and bioeconomy-linked fields as Pharma, Food Supplements, Functional Foods, Vet Pharma.



Ex-vivo tissue fluorescent imaging at 25h post-oral administration of 15 fluorescently labeled BP-EVs.

### Stage of Development:

Validated in vivo essays.

### Intellectual Property:

- European patent filed (November 2021)

DOI: Study under review in *Journal of Extracellular Vesicles (JEV)*

### Aims

Looking for a partner interested in a license and/or a collaboration agreement to develop and exploit this asset.

### Contact details