



Press Release

**The NutriEV project will
explore extracellular
vesicles to address obesity
and other metabolic
disorders**

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The NutriEV project will explore extracellular vesicles to address obesity and other metabolic disorders

The initiative has obtained €3.9 million in funding from the European Union to study these vesicles as potential next-generation superfoods and nutritional biosensors

Researchers from five European countries have come together under the [NutriEV project](#), a research initiative aimed at **exploring extracellular vesicles (EVs) as potential superfoods, biosensors, and therapeutic tools**. The project will study nutrient-enriched extracellular vesicles (nutriEVs) derived from plants and from raw and fermented foods, with a focus on addressing global issues such as **obesity and metabolic disorders**.

The [University of Oulu](#) in Finland (coordinator), the [Consiglio Nazionale delle Ricerche](#) in Italy, the [Technical University of Braunschweig](#) in Germany, the [University of Copenhagen](#) in Denmark, and [Zabala Innovation](#) in Spain will collaborate over 48 months to advance the understanding of nutrition's role in health and develop new approaches to support metabolic health worldwide. The project has been funded with 3.9 million euros by the Horizon Europe program.

NutriEV's primary objective is to decode the composition of **nutrient-enriched extracellular vesicles**, with a specific focus on glycans, which are complex sugars that have the potential to influence gut health, immune function, and nutrient absorption. This research aims to **better understand** how these tiny vesicles deliver essential nutrients directly to cells and their **association with obesity and metabolism**. Through advanced research techniques, NutriEV will investigate gut health dynamics, refine biosensing technologies, conduct clinical trials, and establish a foundation for non-invasive evaluation of the impact of food products.

ADDRESSING THE GLOBAL OBESITY CRISIS

With global obesity rates nearly tripling since 1975, the rise in associated conditions like type 2 diabetes, cardiovascular disease, and cancer has reached a critical level. Obesity alone can shorten life expectancy by up to 20 years and imposes significant economic costs due to heightened healthcare needs and reduced productivity. NutriEV seeks to address these issues by investigating how **EVs from plants and raw and fermented foods** can improve gut health and support metabolic balance. By analyzing molecular data from nutriEVs and their association with obesity and other metabolic disorders, the project aims to refine dietary guidelines and explore new dietary approaches, examining how nutriEVs interact with gut cells and the microbiome to influence metabolism and immune responses.

NON-INVASIVE BIOSENSING

Emerging evidence suggests that EVs carry unique molecular signatures that are detectable even in human sweat, opening pathways for **non-invasive biosensing technologies** to monitor nutritional health, which will also be investigated during the project.

According to **Seppo Vainio**, Research Leader at the Developmental Biology Laboratory of the project's coordinating institution, the University of Oulu, "NutriEV's biomonitoring technologies have the **potential to revolutionize** methods for evaluating the effects of nutrition and offer promising applications for both the food industry and medical fields".

More information can be found on nutrievproject.eu
and the project's social media accounts:



The NutriEV team at the project's kickoff meeting in Oulu, Finland

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