

USE OF INTESTINAL BACTERIA IN THE TREATMENT OF METABOLIC DISORDERS

DESCRIPTION OF THE TECHNOLOGY

The CSIC and the University of Valencia have identified a new species of intestinal bacteria (*Holdemanella sp.*) linked with a metabolically healthy and thin phenotype, and that has beneficial effects for the improvement of energetic homeostasis and glucose metabolism alterations such as those linked with type 2 diabetes, obesity and metabolic syndrome.

The bacteria could be used through alimentary or pharmaceutical products as a preventive and therapeutic strategy for the management of pathologies associated with obesity, while avoiding undesired secondary effects of pharmacological therapies.

Obesity and its associated diseases (diabetes, metabolic syndrome, cardiovascular diseases) are linked with alterations in the composition and function of the intestinal microbiota (dysbiosis), which has a relevant role in the risk for development of these

diseases. A common intervention strategy against obesity consists in the use of probiotics that contain strains of *Lactobacillus* and *Bifidobacterium*. Currently, other bacteria, that can be more effective for the treatment of these diseases, are being discovered in healthy individuals.

Among the beneficial effects of *Holdemanella sp.* it can be highlighted its capacity to improve the production of intestinal hormones and its signaling through endocrine and paracrine pathways, therefore producing positive effects for the metabolism of glucose, the resistance to insulin and the appetite. This contributes to maintain or restore the energetic homeostasis and a healthy metabolic phenotype.

It can be administrated as food, food supplement, pharmacological compound or medicine would help to prevent and mitigate these diseases, whose prevalence has triplicated in the last decades, while avoiding undesired negative effects

MARKET APPLICAITON SECTORS

Pharmaceutical sector.

TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

- Higher specificity in the modulation of energetic homeostasis, through its action on the neuroendocrine system, than currently available probiotic bacteria.
- Proved effectivity in the regulation of glucose metabolism and the resistance to insulin, reducing the risk of developing metabolic syndrome, type 2 diabetes and cardiovascular diseases.
- It can be commercialized in the form of food supplement, probiotics, nutritional compositions or derived products such as nutraceuticals, postbiotics, etc; or through pharmaceutical products such as biotherapeutic, medicines, or adjuvant for antidiabetic medicines.

CURRENT STATE OF DEVELOPMENT

The technology has been successfully tested in laboratory environment.

INDUSTRIAL AND INTELLECTUAL PROPERTY RIGHTS

PCT application filed.

USE OF INTESTINAL BACTERIA IN THE TREATMENT OF METABOLIC DISORDERS

COLABORATION SOUGHT

Companies in the pharma sector interested in the collaboration for the development of clinical tests and the license of the patent for its commercial exploitation are being sought.

RELATED IMAGES

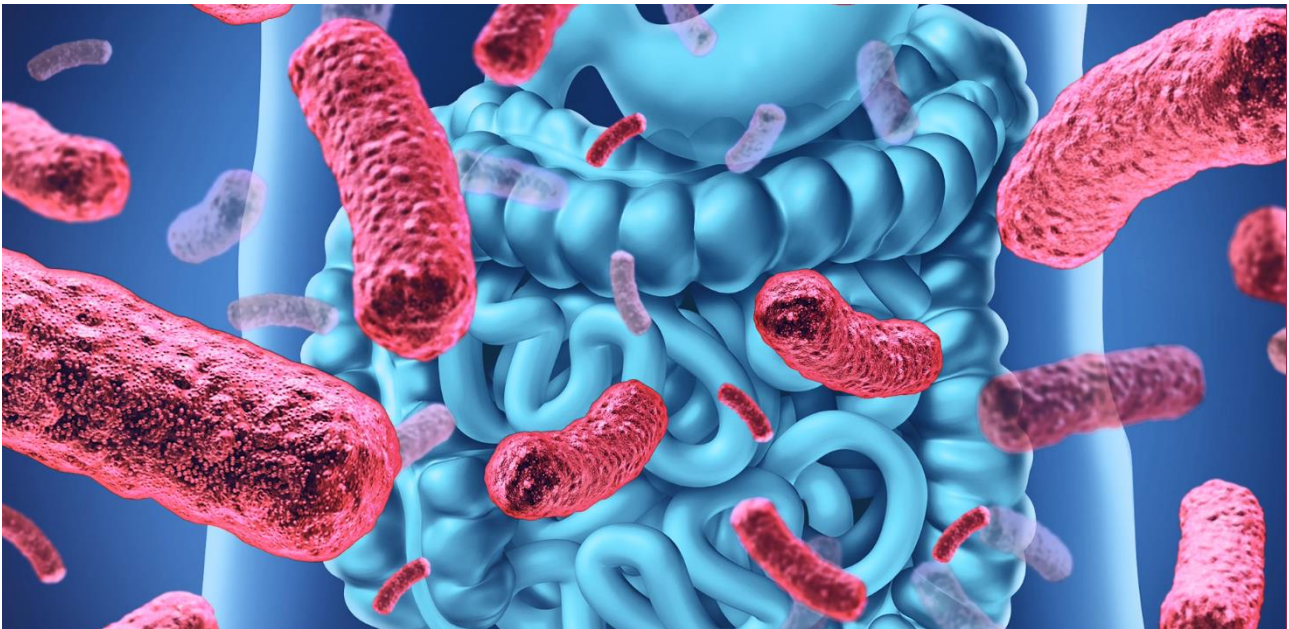


Image 1. Intestinal bacteria play an essential role for an adequate metabolism and the prevention of related diseases.

CONTACT

Instituto de Agroquímica y Tecnología de Alimentos
Yolanda Sanz Herranz
Mail: yolsanz@iata.csic.es
Catedrático José Beltrán, 2
46980 Paterna