The Institute of Agrochemistry and Food Technology (IATA-CSIC) has identified a new intestinal bacterial species (*Holdemanella sp.*) related to lean and metabolically healthy phenotypes in humans and with demonstrated beneficial effects on improving alterations of energy homeostasis and glucose metabolism, including metabolic syndrome and type-2 diabetes. The bacterium could be used as a preventive and therapeutic strategy in the management of obesity-associated disorders, without the side effects of pharmacological therapies, in the form of pharmaceutical or food compositions.

**An offer for Patent Licensing**

More effective Intestinal Bacteria modulating the endocrine system regulating glucose metabolism

Obesity and associated diseases (diabetes, metabolic syndrome, cardiovascular pathologies) are related to intestinal microbiota alterations in terms of composition and/or functions (dysbiosis), which play a relevant role in the disease risk and pathogenesis. A common intervention strategy to control obesity-associated dysbiosis is the use of probiotics formulated with strains of the genera *Lactobacillus* and *Bifidobacterium*. Other bacteria present in the human intestine related to lean and metabolically healthy phenotypes are being discovered and may be more effective as intervention strategies.

Among the beneficial effects of this new patent, of note, it is the ability of *Holdemanella* sp. to restore the production and endocrine and paracrine signaling of intestinal hormones involved in the regulation of glucose homeostasis, insulin resistance and appetite. This helps in the maintenance or restoration of energy homeostasis and a healthy metabolic phenotype, reducing the risk of developing metabolic syndrome and type-2 diabetes. Its administration as a food, food supplement, pharmaceutical composition or drug would help in prevention and mitigation of these diseases whose prevalence has tripled in the last decades, without causing adverse effects.

**Main innovations and advantages**

- Higher specificity modulating energy homeostasis, through actions on the neuroendocrine system, than currently available probiotic bacteria
- Proven efficacy in the regulation of glucose metabolism and, thereby, insulin resistance, reducing the risk of developing metabolic syndrome, type-2 diabetes and cardiovascular disease.
- Commercialization in the form supplements as probiotics, nutritional compositions or derivative products as nutraceuticals, postbiotics, etc.
- Commercialization in the form of pharmaceutical products as live biotherapeutics, drugs or coadyuvants of anti-diabetic drugs.

**Patent Status**
PCT patent application filed

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