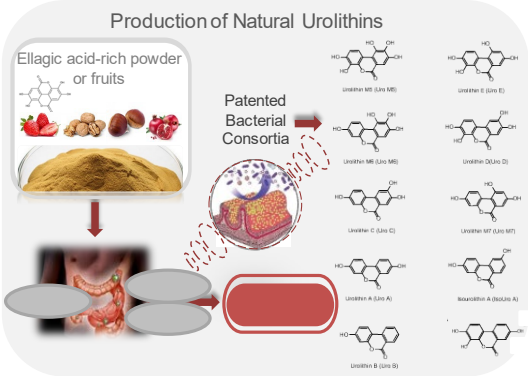
Technology Offer CSIC/MG/003

# Microbial method for reproducing the human urolithin metabotypes in vitro and in vivo




**Isolation from the intestine of a healthy woman a novel bacteria strain that produces urolithins and development of a novel gut bacterial consortia comprising the mentioned novel bacterium and other bacteria wherein the consortia produce the mix of urolithins of metabotypes A or B, respectively, either *in vitro* or *in vivo*, including the newly characterized urolithin G.**

### Intellectual Property

European patent application

### Stage of development

Technology validated in the laboratory. TRL 5.

### Intended Collaboration

Licensing and/or co-development

### Contact

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## Market need

A progressive cellular and mitochondrial health decline is associated with impaired muscle and neuronal function during aging. Urolithins (Uros) produced by our intestinal microbiota are beneficial metabolites with anti-inflammatory, antioxidant, anticarcinogenic, cardioprotective, neuroprotective, and anti-aging properties and clinically show to reverse muscle decline associated with aging. However, Uros production capacity and, consequently, the health effects associated vary among individuals because not all individuals have the gut bacteria ecology needed to produce all the Uros.

## Proposed solution

We have developed a method to produce Uros naturally by using enteric bacteria.

Particularly, the bacterial strain belongs to the Enterocloster genus and can be used alone or in combination with other enteric bacteria, to customize urolithin production to mimic the human metabotypes A and B in vitro and in vivo.

## Competitive advantages

- Oral probiotic and (or) postbiotic compositions that sucessfully produce urolithins *in vivo* and mimic human metabotypes A and B.
- Natural production of the human urolithins of metabotypes A and B from ellagitannins and ellagic acid sources for various uses.
- The novel urolithin G for treating and (or) preventing diseases or reversing muscle decline associated with aging.