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Gluten Digesting Bacterial Strains

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BACKGROUND

Over the last few years Celiac disease and gluten intolerance has been on the rise. Currently, the only treatment is a gluten free diet, which is very difficult to follow. Cross contamination of gluten free products is common and many food items that seemingly contain no wheat contain gluten-derived products. Here we describe several bacterial strains isolated from humans for their gluten degrading activities. These bacteria may be used to eliminate trace amounts of wheat contaminants from gluten free products or as probiotic therapy.

TECHNOLOGY DESCRIPTION

Researchers at UCI have identified several bacterial strains isolated from the human mucosa with gluten degrading activity. Four gluten digesting bacteria strains that are considered non-pathogenic such as *Rothia dentocariosa*, *Streptococcus salivarius*, *Bacillus pumilus* and *Bacillus subtilis* were isolated from human samples and confirmed for robust gluten digesting activity. The gluten digesting activity of each bacteria is stable and these bacteria are available to be used in the development of gluten free products or as probiotic therapy.

SUGGESTED USES

The isolated bacteria were identified as *Rothia dentocariosa*, *Streptococcus salivarius*, *Bacillus subtilis* and *Bacillus pumilus*. These four bacteria belong to a group of bacteria strains which are used as probiotics and have been tested for their safety. The advantage of the strains isolated here is that they come from a human source and have specifically been isolated based on their gluten digesting activity. These isolates can be used to ensure there is no cross contamination in gluten-free products.

PUBLICATIONS

[Rapid isolation of gluten-digesting bacteria from human stool and saliva by using gliadin-containing plates.](#) Berger M, Sarantopoulos C, Ongchangco D, Sry J, Cesario T. *Exp Biol Med* (Maywood). Dec 2014. PMID: 25519429

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OTHER INFORMATION

KEYWORDS

Gluten, Celiac disease

CATEGORIZED AS

- » **Agriculture & Animal Science**
 - » Nutraceuticals
 - » Processing and Packaging
- » **Biotechnology**
 - » Food
- » **Materials & Chemicals**

» Biological

» **Medical**

» Disease: Digestive
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