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Licensing opportunity

Modified food grade microorganism for treatment of inflammatory bowel disease

Field of use
Medical technology
Functional food

Current state of technology
Laboratory tested/preclinical

Intellectual Property
US 8,754,198 B2
EP2521737 (B1)

Publication
Int Immunopharmacol., 2017, 43, 219-226.
Appl Environ Microbiol., 2010, 76, 6928-6932.

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Reference

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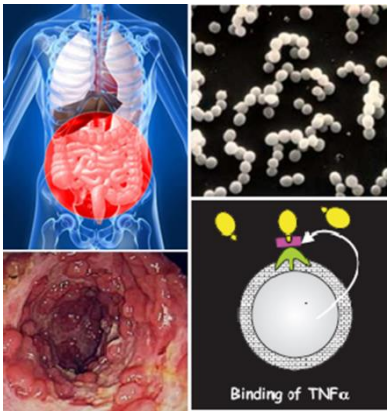

Background

Inflammatory bowel disease (IBD) refers to a group of gastrointestinal disorders characterized by chronic, relapsing inflammatory disorders of the gastrointestinal tract. Crohn's disease and ulcerative colitis are the two main subtypes of IBD.

Description of the Invention

The present invention represents a general platform for the delivery of protein-based substances on the surface of lactobacteria to the gastrointestinal tract. The invention specifically describes modified lactic acid bacteria that are capable of binding proinflammatory cytokine TNFα in the gastrointestinal tract and thereby reduce the content of free TNFα and alleviate its proinflammatory effects. Such microorganism can be used as medicament in the treatment of inflammatory bowel disease.

Main Advantages

Lactic acid bacteria can be orally delivered to gastrointestinal tract. Surface expression of TNFα binding polypeptide on lactic acid bacteria provides protection from chemical and enzymatic factors in the gastrointestinal tract. The production of such lactic acid bacteria is more cost effective compared to monoclonal antibodies, typically used to reduce TNFα in IBD patients.

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KONZORCIJ ZA PRENOS TEHNOLOGIJ IZ JRO V GOSPODARSTVO