Morphology and carbohydrate surface antigens of Flavonifractor plautii PCM 3108

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The human digestive tract is one of the most complex microbial ecosystems. Microbiota has a great influence on the maintenance of homeostasis or the development of several diseases, such as inflammatory bowel diseases (IBD). IBD include Crohn's disease (CD) and ulcerative colitis (UC), which pathology is characterized by chronic inflammation of the digestive tract. It is known that patients with IBD have a greater amount of certain specific species of bacteria compared to healthy individuals [1].

Flavonifractor plautii is a strictly anaerobic, Gram-variable bacterium belonging to the Clostridiales [2,3]. It is a component of the human gut microbiome and is well known for its ability to metabolize a wide range of flavonoids, however, that is the only one clearly defined property of this species. *Flavonifractor plautii* is characterized by slow and minimal growth, thus its phenotypic identification is a challenge for microbiologists. Until now, three cases of infections have been described [4]. The enrichment of the *F. plautii* has been indicated in patients with colorectal carcinoma, IBD and other gastrointestinal tract disorders [5].

The purpose of this study was to further analyze the biological properties of clinical isolate *F. plautii* PCM 3108. The complete structure of the exopolysaccharide was determined using NMR spectroscopy as the repeating unit of →2)-Rha*f*-(1→4)-Rha*f*-(1→. Bacterial cultures were also analyzed by transmission electron microscopy showing the bacterial cells morphology and structure of the cell wall. The ability to produce membrane vesicles was also demonstrated.

Bibliographic references:

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