



## Use of bacteria or compositions containing 7 alpha-dehydroxylase activity and bile acid receptors FxR and/or TGR5 agonists for treating and/or preventing atopy and allergic diseases

### PI :

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An interesting **photo** related to your technology (be careful not to disclose key technology)

### Experience:

Department of Medical Research

<https://www.ntuh.gov.tw/LARD/Fpage.action?muid=5826&fid=6344>

### Market Needs:

Dietary supplement, probiotics, postbiotics, immune modulatory and anti-inflammatory pharmaceutical agent

### Our Technology:

The invention relates the use of bacteria or compositions containing enzymatic activity of 7 alpha-dehydroxylase or bile acid receptors FxR and/or TGR5 agonistic agents in inducing the expansion of immune regulatory myeloid-derived suppressor cells (MDSCs) and regulatory T-cell (Treg) and in prevention or treatment of allergic diseases

### Strength:

Currently available applications exploiting microbiota for fortifying immune regulation, such as the *Lactobacillus* and *Bifidobacterium*, were extrapolated from comparison of the microbiomes between the healthy controls and the patients. Applications derived as such were not supported by molecular mechanisms obtained in prospective studies. In addition, direct administration of microbial species by oral route is confounded by microbial survivability owing to the presence of acids, bile acids and the low oxygen content in the gut. The current invention was based on the theory of microbial metabolic dependency and co-occurrence and was thoroughly investigated at both the microbial and molecular levels, wherein microbial 7 alpha-dehydroxylase bio-transforms bile acids and effects through bile acid receptors FxR and/or TGR5 pathways. The current invention has the advantage of exempting from disturbed bioavailability due to microbial survivability in the gut.

### Competing Products:

None

**Intellectual Properties:**

1. Provisional patent, United States Patent and Trademark Office (USPTO #63346291; 2022-5-26)°
2. Taiwan Intellectual Property Office (TIPO #TW111146036; 2022-11-30)

**Contact (do not need to fill out):**

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