

Objectives

- Explore the connection between the intestinal microbiota and the development of food allergy.
- Find the differences between the intestinal microbiota of healthy people and people with food allergy.
- Find preventives strategies for food allergy.

Introduction

Main food allergens in childhood:



There are some factors that affect to food allergy:

- Genetic factors
- Diet
- Environmental factors
- **Intestinal microbiota**

Intestinal microbiota

A direct correlation have been established between the factors that alter the microbiota during childhood. Cesarean delivery, lack of breast milk, the use of antibiotics, low-fiber and high-fat diets are found among these factors.

There are studies that show differences between the intestinal microbiota of healthy people and people with food allergy, but they are not conclusive.

- In **allergic** newborn people: the genus *Bacteroides* and the genera *Propionibacterium* and *Klebsiella* were more abundant. The relative abundance of total *Proteobacteria*, was significantly lower.
- In **non-allergic** newborn people: the genera *Acinetobacter* and *Clostridium* were less abundant.

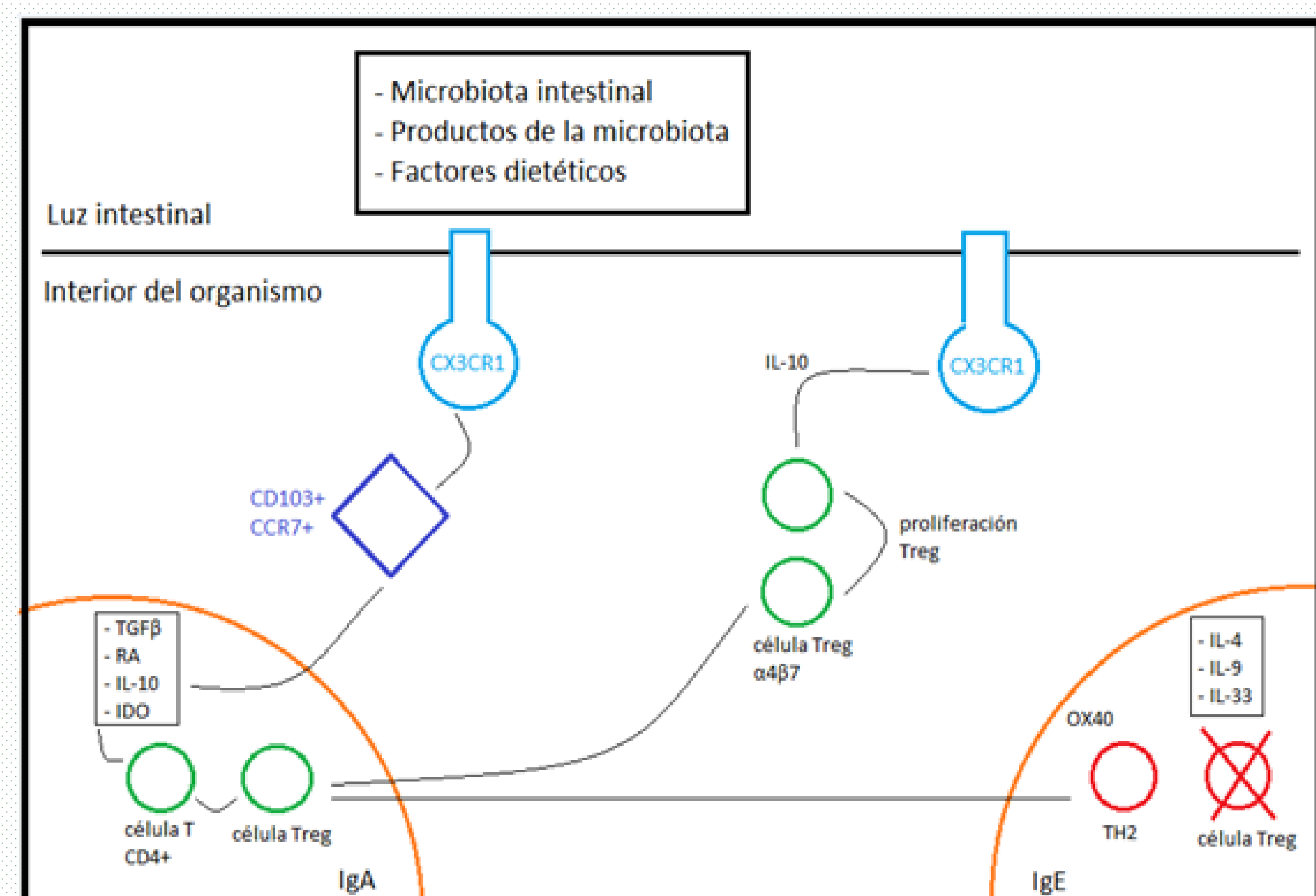
The results obtained in another study did not show any differences on the microbial diversity between these two groups.

A higher proportion of *Enterobacteriaceae/Bacteroidaceae* and low abundance of *Ruminococcaceae*

↓
food sensitization

Intestinal immune system

- **Th1 / Th2** balance.
- There are some differences between tolerance and allergy reactions.



Preventive strategies

- Early addition of the allergen in newborn people. Peanut.
- Treatment with probiotics. *Lactobacillus rhamnosus*, *Lactobacillus helveticus*, *Clostridium butyricum*, *Lactobacillus acidophilus*, *Lactobacillus paracasei*, *Lactobacillus gasseri*, *bifidobacterium longum* and *bifidobacterium bifidum*.

Conclusions

Research into the role of gut microbiota on the development of food allergy should continue evolving. Larger studies are needed to establish a direct relationship between a defined intestinal microbiota and food allergies.

Nonetheless, there are some indications to think that the connection exists, but investigators should research deeply. There are two main routes for the study of protective strategies against food allergy. On the one hand, there is the early addition of the allergen into newborn children diet and, on the other hand, by supplying the newborn children with probiotics. However, they will act as a preventive measure against allergies, but not as a treatment.