

# Microbiome and Allergy: New Insights and Perspectives

## Instructions for obtaining 1.1 Continuing Medical Education Credits

Credits can be earned by reading the text and completing the CME examinations online throughout the year on the SEAIC web site at [www.seaic.org](http://www.seaic.org)



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## CME Items

1. During which of the following periods is the microbiome highly dependent on exposure?
  - a. During the second year of life
  - b. During the first 1000 days of life
  - c. During adulthood
  - d. None of the above
2. Which of the following factors modifies the microbiome?
  - a. Mode of delivery
  - b. Breastfeeding
  - c. Use of antibiotics
  - d. All of the above
3. What percentage of immune system cells are found in the small and large intestines?
  - a. 70%-80%
  - b. 50%
  - c. 30%-40%
  - d. 10%
4. Which of the following apply in relation to the interaction between the microbiota and the immune system?
  - a. The balance between the immune system and the resident microbiota is important for the maintenance of health
  - b. Dysbiosis in the microbiota has been associated with several inflammatory diseases
  - c. Specific factors influence the composition of the microbiome and stimulate the immune system
  - d. All of the above
5. Which bacterial genus increases the risk of atopic dermatitis?
  - a. *Streptococcus*
  - b. *Staphylococcus*
  - c. *Propionibacterium*
  - d. *Acinetobacter*
6. Which of the statements about regulatory T cells (Tregs) is incorrect?
  - a. They are lymphocytes that express CD4 and CD8
  - b. In healthy individuals, they are present in a dynamic balance with all T<sub>H</sub> lymphocyte subpopulations
  - c. Alterations in the gut microbiota and decreased levels of Tregs have been found in people with rhinitis, atopic dermatitis, asthma, or food allergy
  - d. The short-chain fatty acids produced by the microbiota, such as butyrate, increase the proportion of Tregs
7. Which cells are involved in the humoral response?
  - a. Regulatory T cells
  - b. T<sub>H</sub>1 lymphocytes
  - c. T<sub>H</sub>0, T<sub>H</sub>2, and B lymphocytes
  - d. Eosinophils are the only cells involved
8. What is the best technology for the study of the microbiome?
  - a. Shotgun metagenomics
  - b. The association of several techniques as much as possible is always the best option for providing a broader view of a specific environment
  - c. Metatranscriptomics
  - d. Metabolomics
9. Which question does metabolomics answer?
  - a. Who's there?
  - b. What has happened?
  - c. What might happen here?
  - d. What seems to be happening in this environment?
10. Which of the following technologies targets the 16S ribosomal RNA gene?
  - a. Metabolomics
  - b. Metatranscriptomics
  - c. Shotgun metagenomics
  - d. None of the above