

# The Different Approaches for Micro Biome in Research Field

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## Abstract

Microbiome is a term that is used to comprise the entire microorganism's genome that inhabit symbiotically in the human gut, the microorganism inhabiting together are the bacteria, archaea, viruses and fungi. It is the requirement of the time that we consider the review as well as the association of micro biome data for the inventory of the new therapeutic approaches which should be in the consideration of the traditional approaches in concept wise along with the methodologies.

**Keywords:** Microbiome • Therapeutic strategies • Human microbiome

## Introduction

Microbiomes are the microorganism's genome that has an incredible growth rate. The humans are considered to be one of the most reliable attribute in consisting of the heterogeneity that are responsible for the varied allelic genes types. The colon of human beings is rich in the habitants of these microbiomes which are aerobic in nature as compare to the microbiomes found in the small intestines. However, the upper gut of the humans consists of the anaerobic nature of microbes which are very difficult to be used in the culturing procedure. Thus, there have been advancements in the omics based approaches that had led to the well acknowledgment of the intestinal microbiome activities, in turn giving the well explained research work of its impact and health diseases.

Presences of the different types of microbiome on the surface of the humans have been reported in the recently initiated project of the National Institute of Health (NIH) in year 2007. One of its research work discuss about the child birth through the vaginal or the C section is the most common reason for the accumulation of the microbiome which are as follows Firmicutes, Bacteroidetes, Proteobacteria, and Actinobacteria. The physiological changes of this microbiota occur during the maturation period as on exposure to the environmental factors.

One of the specialty of these microbiota is that they governs their own individual genetic imprint which is in also in correspondence to the genetic makeup of the particular host they cite in, regardless of the fact that mostly one third of species are similar across the most humans population. The environmental factors considered for the changes to the microbiota are the Hygiene, diet, geographical locations, and host genotype which plays a vital role in decorating the inhabitant of these micro biomes. Mostly the host physiology is said to be taking the credit for deciding the genotype of the intestinal microbiomes such as their sex hormones and the age factors. Thus, human has to accept these microbiomes as their benefactors and establish the relationship of symbiosis. The benefits that are acquired by the humans through the microbiomes are that they helps in the out beating of the pathogens, simultaneously led to the prevention of the inflammation and hosting the integrity of the epithelium firmly. Diversity of these microbiomes

are considered for the maintenance of the intestinal ecosystem which would be necessary for the harvesting of the energy from the food manufactured by the host as well as the providing the micronutrients as the return favor. Thus, microbes are responsible for the receiving of the food as well as the appropriate environment for the growth and development.

The research work of this microbiota mainly considers of the three fields that are the Environment, microbiome and the host. However, only two criteria are studied when considered about the microbiota that is as follows:

- Studying the characterization of the connection between the microbiome as well as the host at the molecular level such as the genetic makeup and the biological functions, the environmental factors are also considered such as the clinical or the experimental conditions.
- Then after the completion of studying the characterization of the physiological aspects along with the environmental factors the embarkation of the required desired traits that provides us the knowledge of the mechanism of the host genetic and environmental factors relation that are responsible for the composition of the genome as well as the microbiome effects on the host's physiological properties. Thus, these studies help us gaining the knowledge of how changes in the composition of the microbiome can effect in the human diseases at the therapeutic levels.

## Conclusion

The most favored approach for the study of the consisting of the microbiome and the omics is to get the sufficient knowledge of the dynamic and the complicated study of the micro biome system functioning. Thus, it is the requirement of the time that we consider the review as well as the association of microbiome data for the inventory of the new therapeutic approaches which should be in the consideration of the traditional approaches in concept wise along with the methodologies.

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## Conflict of Interest

We have no conflict of interests to disclose and the manuscript has been read and approved by all named authors.

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