

The importance of gut microbiota in metabolic syndrome

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What are microbiota?



Microbiota comprises trillions of microorganisms, including bacteria, fungi, viruses, protozoa, and archaea, with composition influenced by its environment or host. The majority are commensal or mutualistic.

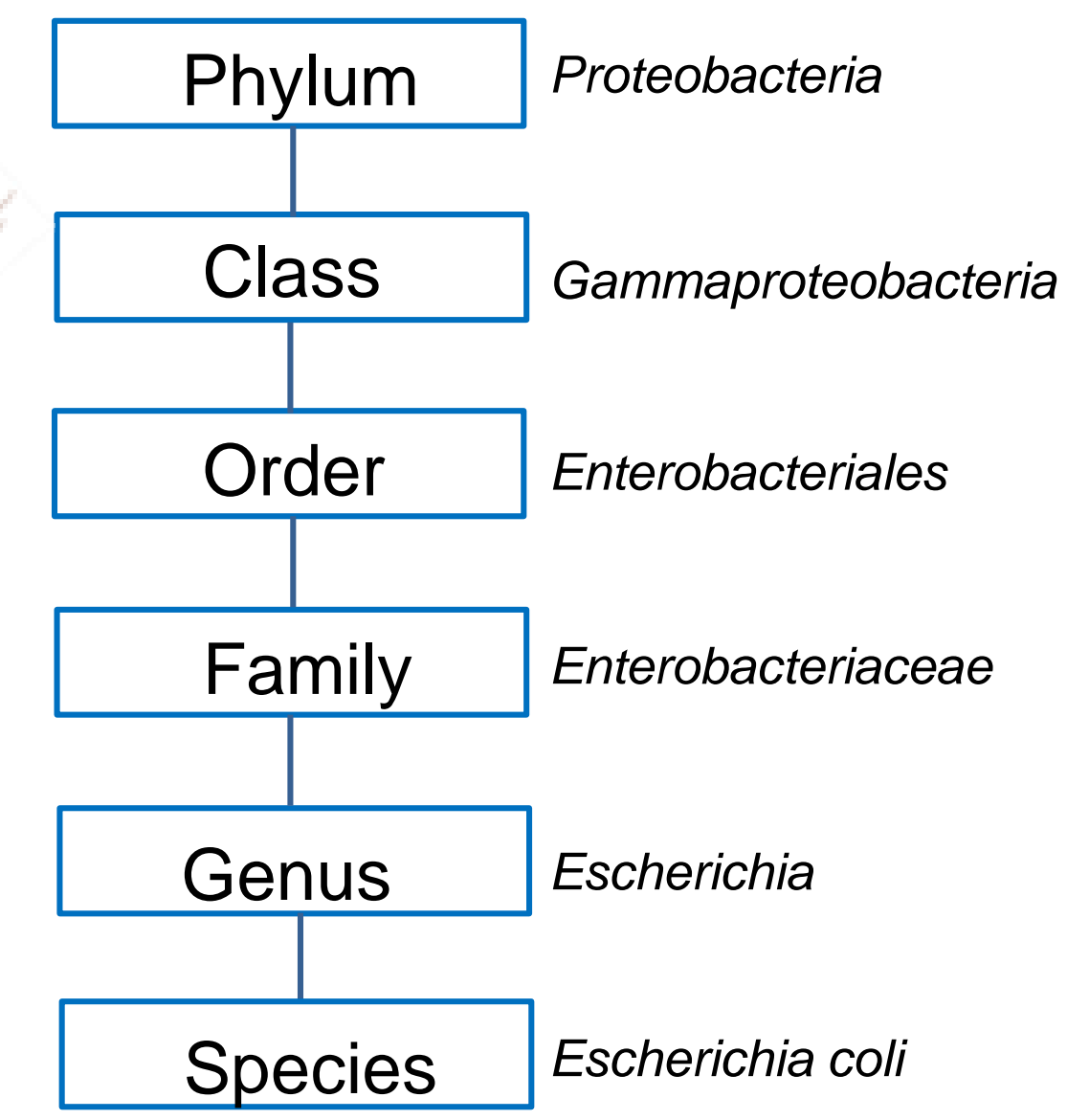
An estimated 30 trillion cells in your body—less than a third—are human. The other 70-90% are bacterial and fungal.



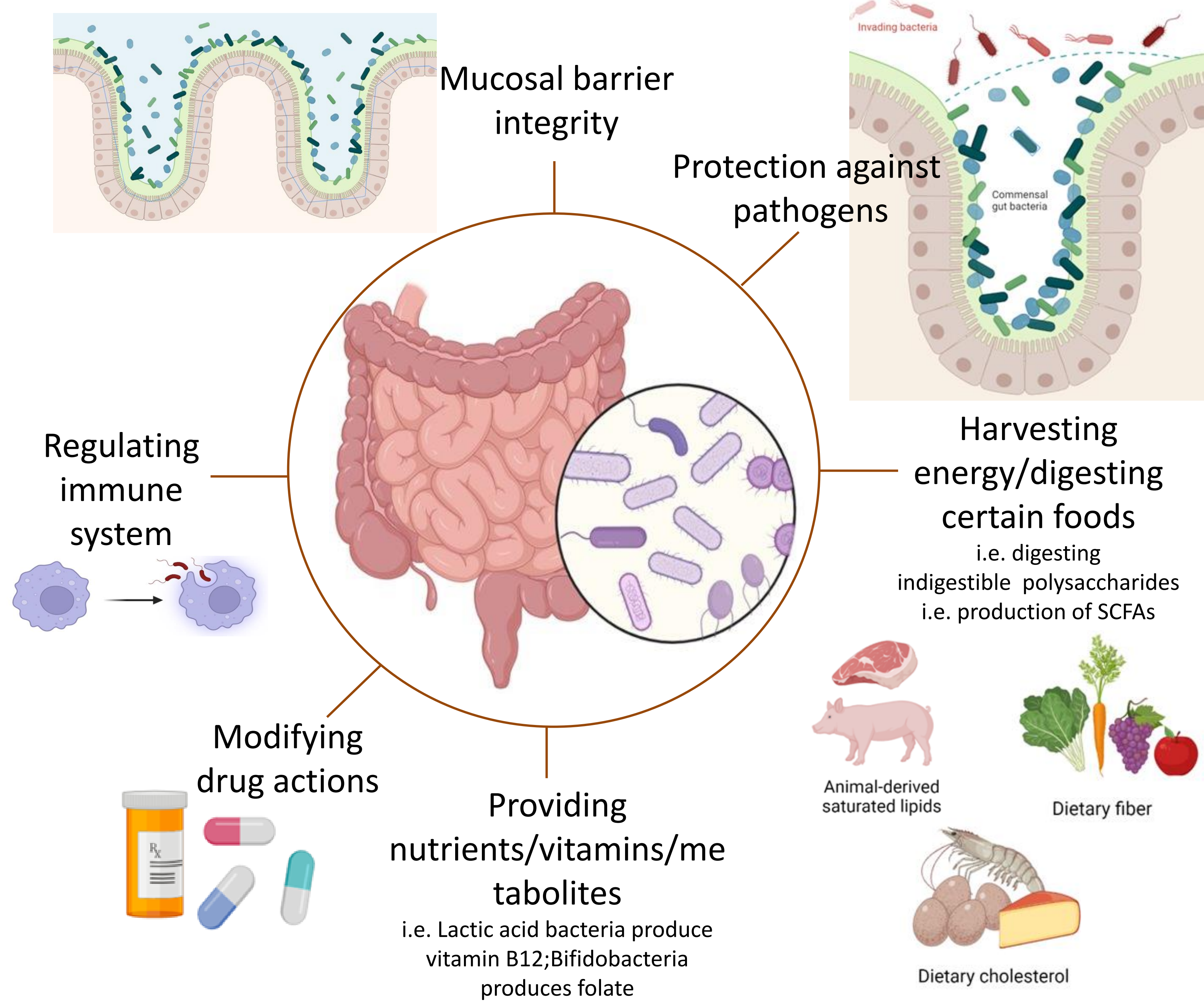
Image adapted from: American Natural Museum of History

99% of the unique genes in your body are bacterial. Only about one percent is human.

Classification:

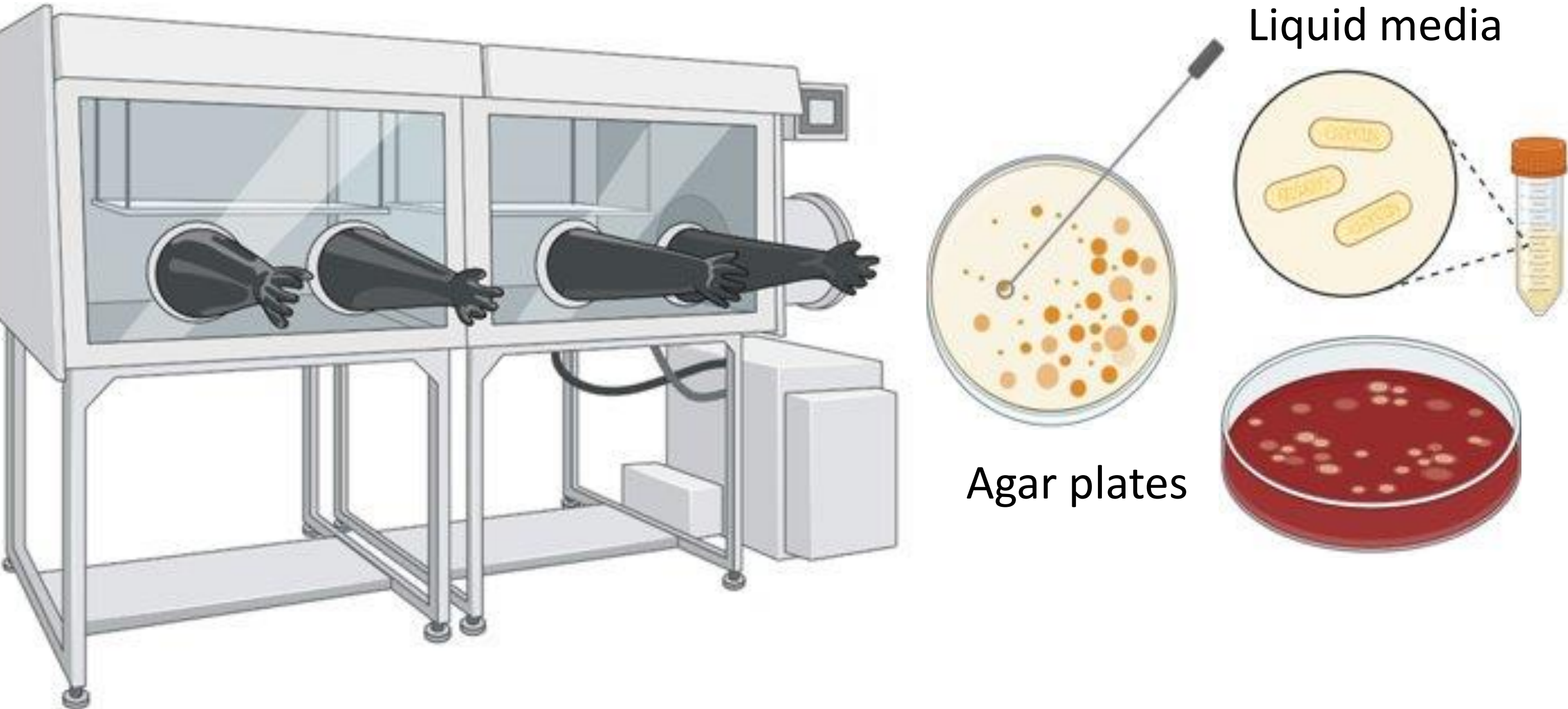


What are the functions of gut microbiota?

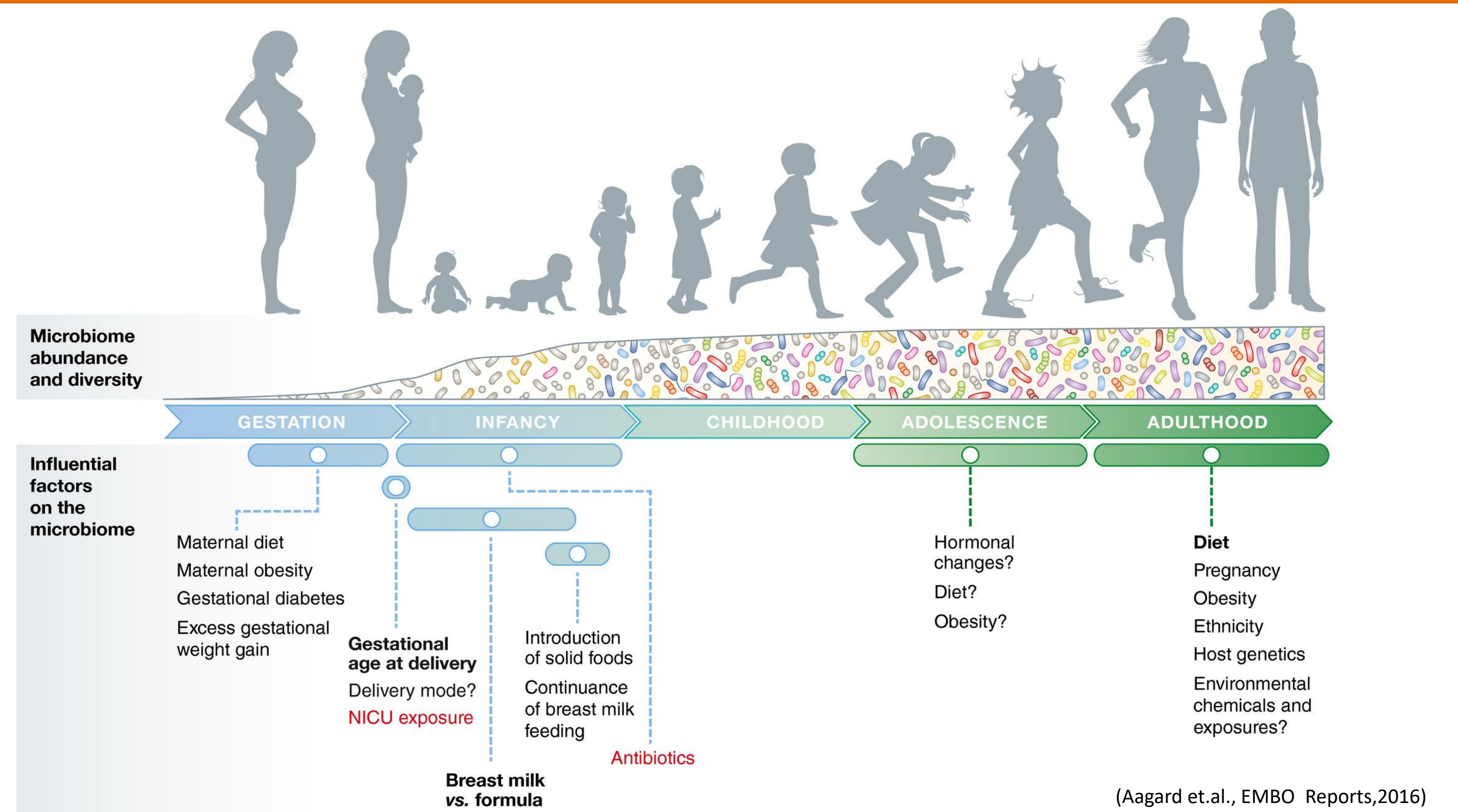


How do we study microbiota?

Bacterial culture:

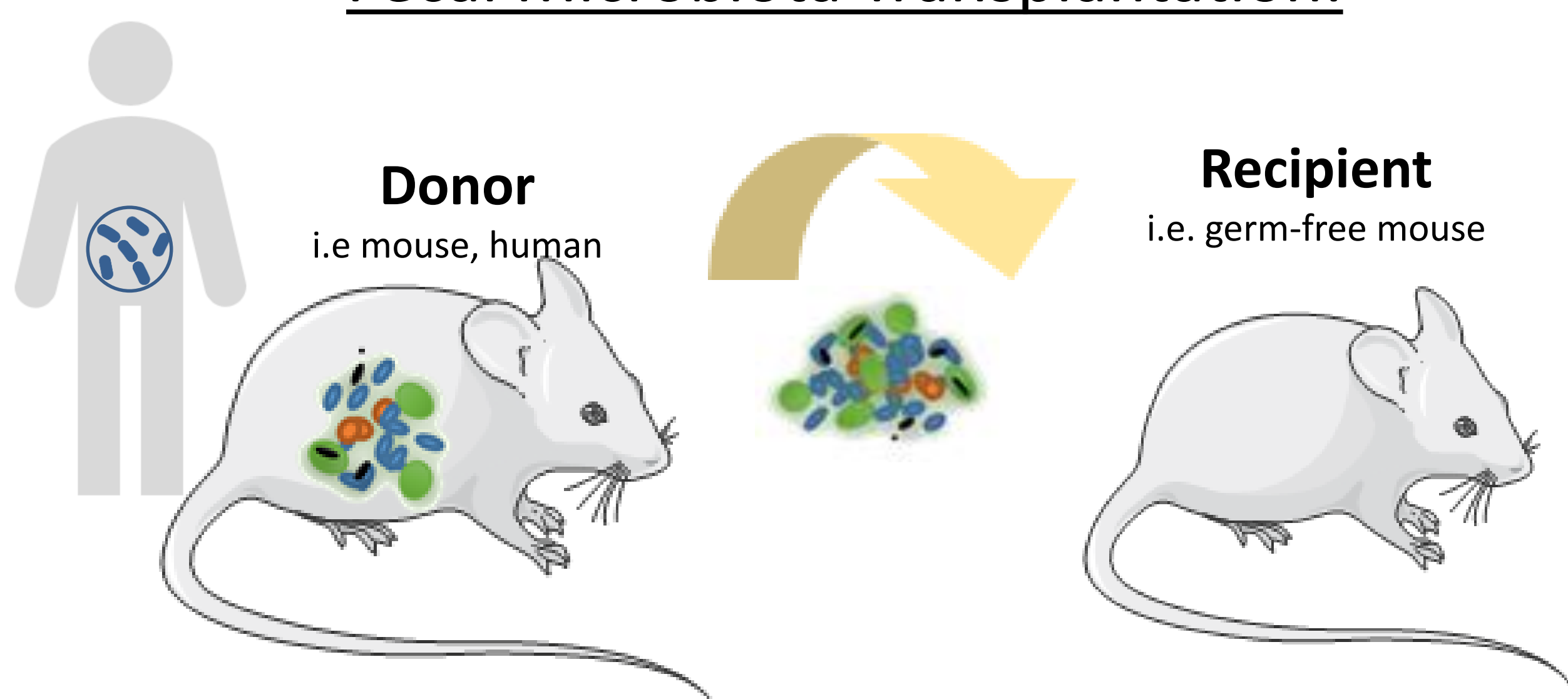


What affects microbiota composition?

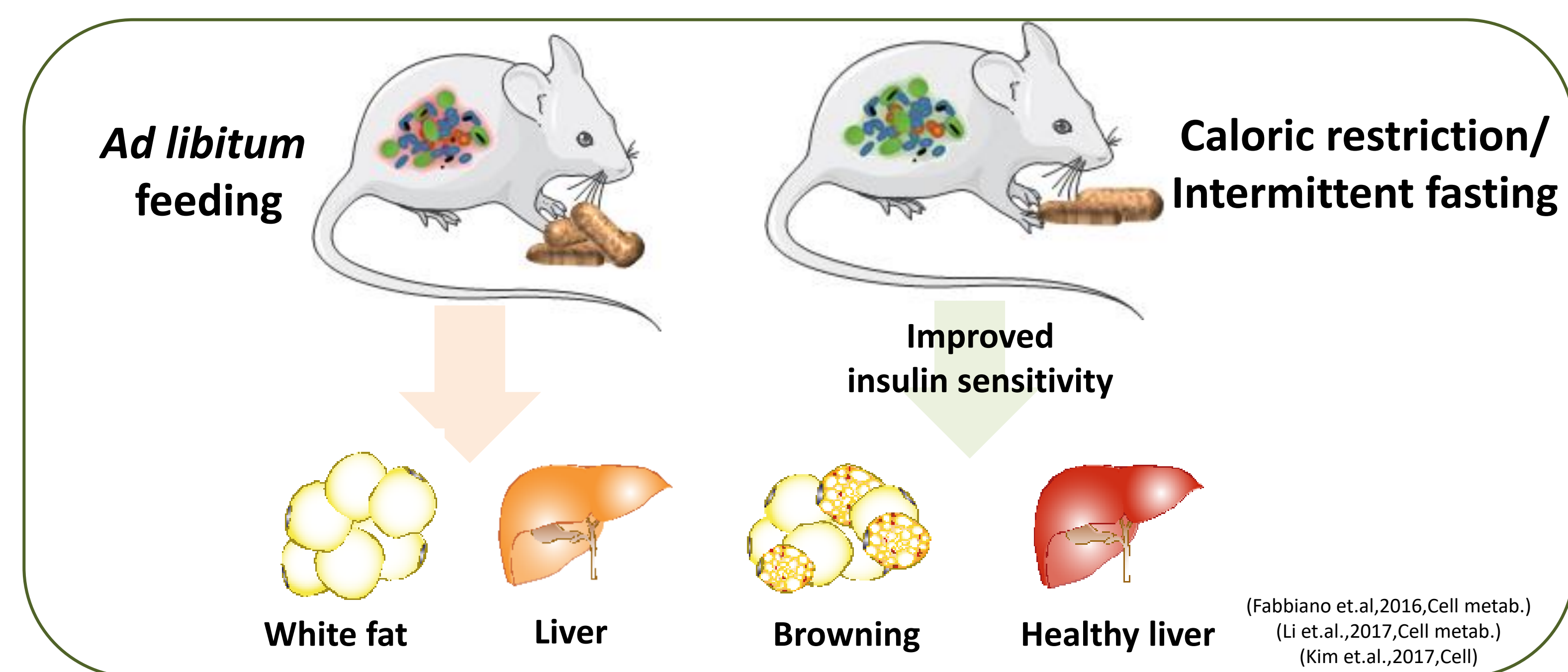
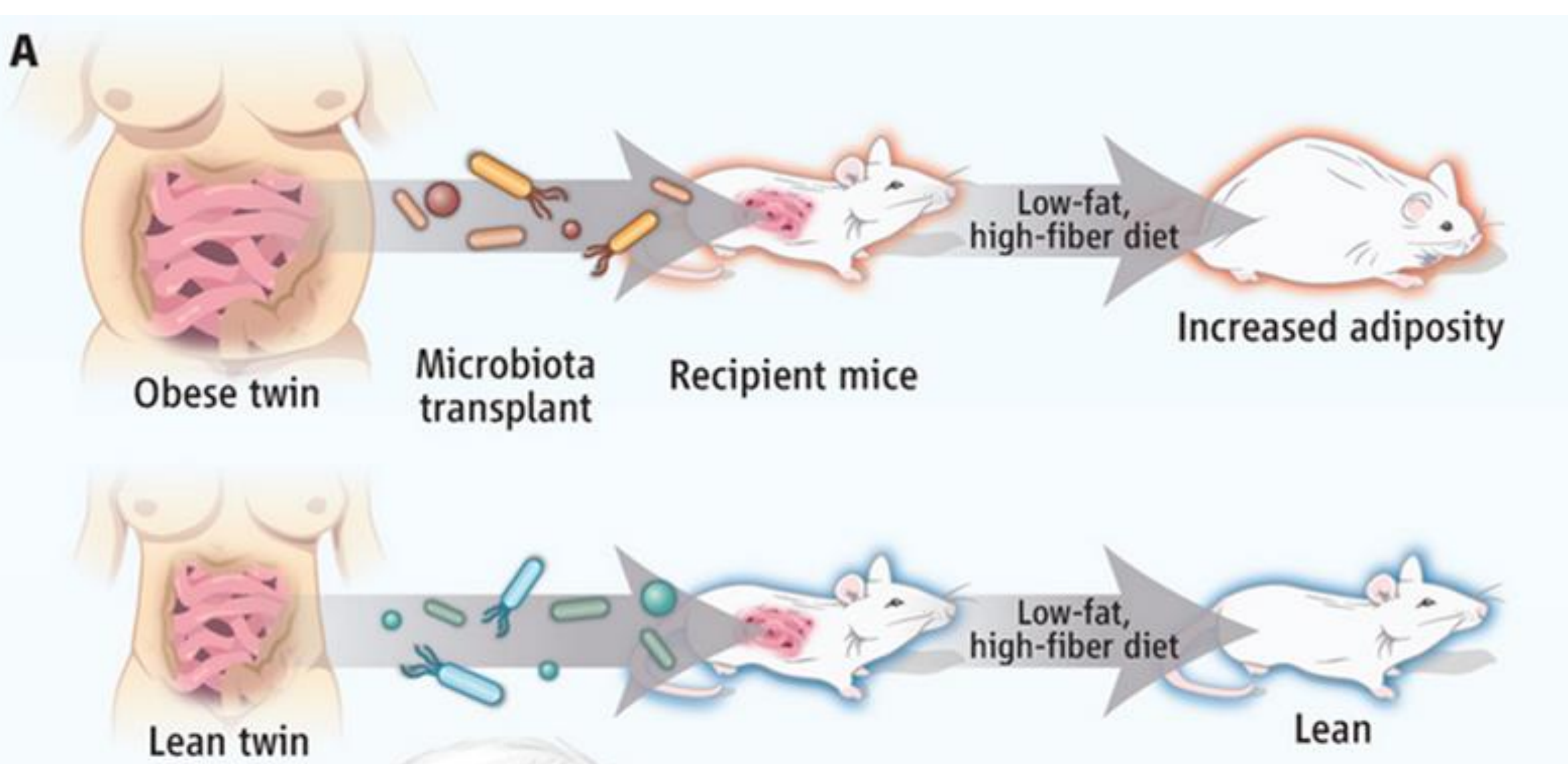
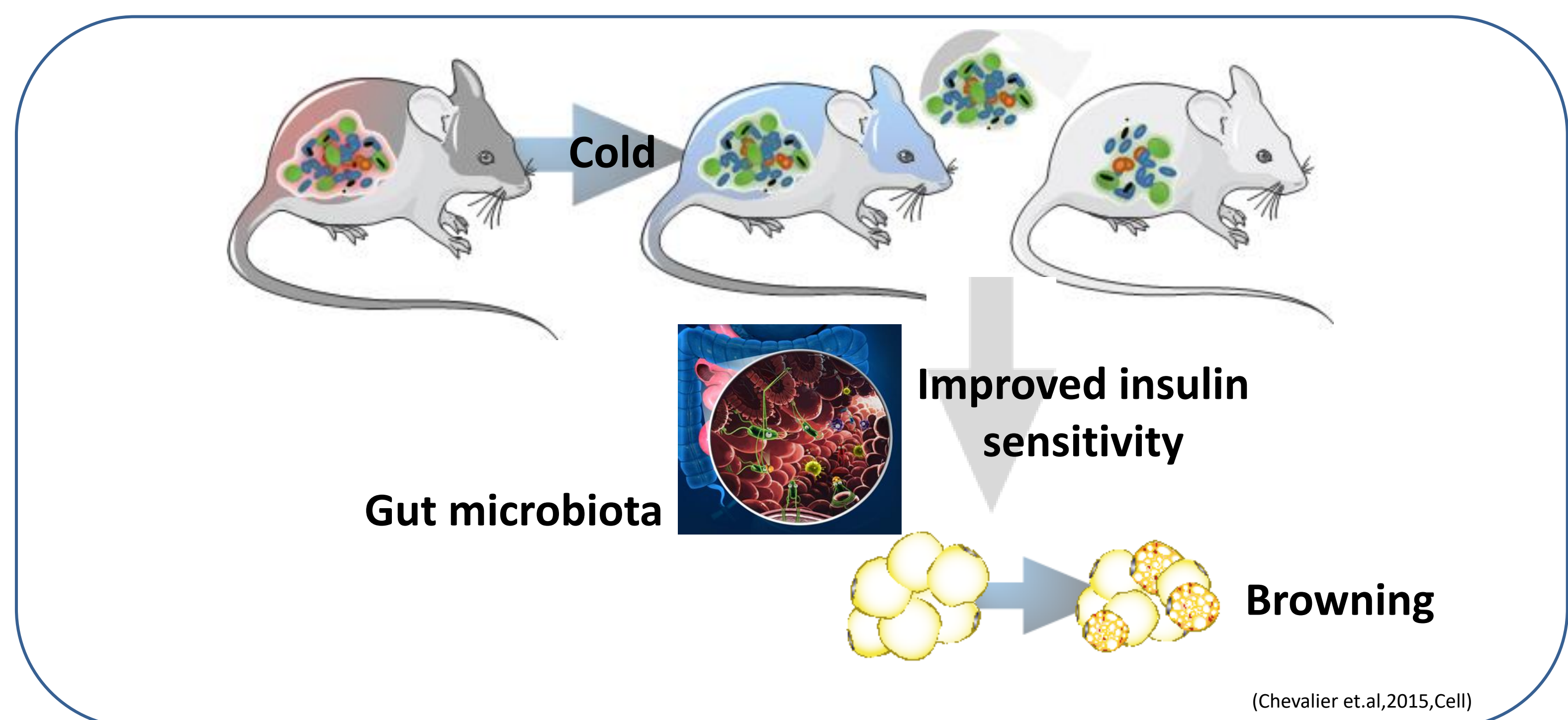


Gut microbiota is involved in obesity

Fecal Microbiota Transplantation:



Gut microbiota contributes to metabolic improvements



(Ridaura VK et. al., 2013, Science)

(Fabbiano et.al,2016,Cell metab.)
(Li et.al.,2017,Cell metab.)
(Kim et.al.,2017,Cell)