



Efficiency of *Akkermansia muciniphila* in type 2 diabetes and obesity

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Abstract:

Akkermansia muciniphila is an anaerobic species of gut microbiome that has been proposed as a new functional microbiota with probiotic properties. Recent research has shown the amazing abilities of probiotic bacteria, *A. muciniphila*, which resides in most people's intestines. These bacteria affect the body if it increases or decreases abdominal fat. The presence of *A. muciniphila* has opened new ways for the use of this plentiful intestinal symbiont in next generation therapeutic products, as well as targeting microbiota dynamics. *A. muciniphila* is particularly effective in increasing mucosal thickness and enhancing bowel barrier function. As a result, host metabolic markers improve. The host functions that are disrupted in various diseases with a particular focus on metabolic disorders in animals and humans. A specific protein in the outer membrane of *A. muciniphila* called Amuc-110 could in the future be a strong candidate for drug production. As a result, we suggest that microbes and our microbiology or gut microbiome knowledge could be a new source for future treatments. The objectives of this review are to summarize the data available on the distribution of *A. muciniphila* gut in health and disease, to provide insights into the environment and its role in the creation of microbial networks at the mucosal interface, as well as to discuss recent research on its role in regulation.

Biography:

I am Farzaneh M. Rostami. I received my BSc in Biology University in 2009 and I received my MSc in Medical Microbiology from Zahedan University of Medical Science in 2014. Now I'm Ph.D student in Medical Bacteriology in Isfahan University of Medical Science. I have written some papers related to my thesis and review articles. I participate in many seminars and two webinars as a pre-



sender. I have been teaching for about 2 years. My research interests are bacteriocins therapy and cancer.

Publication of speakers:

1. Verhoog S, Taneri PE, Roa Díaz ZM, Marques-Vidal P, Troup JP, Bally L, Franco OH, Glisic M, Muka T. Dietary factors and modulation of bacteria strains of *Akkermansia muciniphila* and *Faecalibacterium prausnitzii*: a systematic review. *Nutrients*. 2019 Jul;11(7):1565.
2. Zhai Q, Feng S, Arjan N, Chen W. A next generation probiotic, *Akkermansia muciniphila*. *Critical reviews in food science and nutrition*. 2019 Oct 28;59(19):3227-36.
3. Kosciow K, Deppenmeier U. Characterization of three novel β -galactosidases from *Akkermansia muciniphila* involved in mucin degradation. *International Journal of Biological Macromolecules*. 2020 Apr 15;149:331-40.
4. Gurung M, Li Z, You H, Rodrigues R, Jump DB, Morgun A, Shulzhenko N. Role of gut microbiota in type 2 diabetes pathophysiology. *EBioMedicine*. 2020 Jan 1;51:102590.

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