Supplementary Table 1. Role of the gut microbiota in the protection or induction of inflammation diseases.

Microbe	Subject	Disease	The possible role of macrophages	Reference
Microbiota that promote the development of inflammation disease				
E. coli	Rats	NASH	Escherichia Coli-LPS induces liver macrophages activation towards pro-inflammation phenotype through the TLR4 pathway	(Zhu et al., 2013; Carpino et al., 2019)
Prevotella copri	Human	RA	The activated macrophages are the main source of pro-inflammatory cytokines and chemokines such as TNF and IL-1β	(Bernard, 2014; Siouti and Andreakos, 2019)
Bacteroides fragilis	NOD mice	T1DM	B. fragilis enhances the phagocytic functions of macrophages and polarize them to an M1 phenotype.	(Deng et al., 2016; Sofi et al., 2019)
Clostridium difficile	Child	Asthma	C. difficile release TcdA and TcdB toxins, which induce the recruitment of macrophages, and survive in the macrophages	(Paredes-Sabja et al., 2012; Salameh et al., 2020)
Adherent-invasive Escherichia coli	Human	CD	Adhere to intestinal epithelial cells, invade epithelial cells, survive and replicate within macrophages.	(Darfeuille-Michaud et al., 2004)
Microbiota that protect against inflammation diseases				
Prevotella histicola	HLA-DR3.DQ8 transgenic mice	MS	The induction of suppressive macrophages which produced higher IL-10 and lower IL-12, thus induced a decreased capacity of antigen presentation	(Mangalam et al., 2017)

Roseburia	Human	T2DM	Production of butyrate which exert anti-inflammatory role on macrophages	(Liu et al., 2012; Vrieze et al., 2012)
Lactobacillus helveticus	Mice	Asthma	L. gasseri decreased the numbers of alveolar macrophages which produce IL-17	(Jan et al., 2012; Hsieh et al., 2018)

NASH, nonalcoholic steatohepatitis; MS, Multiple sclerosis; RA, rheumatoid arthritis; T2DM, type 2 diabetes mellitus

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