

## Supplementary Materials

**Table S1.** List of bacteria with pro-inflammatory, not clear pro-inflammatory or anti-inflammatory, and anti-inflammatory profiles. The missing taxa are a result of the lack of sufficient evidence in the Pubmed search.

Pro-Inflammatory	Not Clearly Pro-Inflammatory or Anti-Inflammatory	Anti-Inflammatory
Parabacteroides Alistipes Bacteroides Desulfovibrio Streptococcus Balutia Dorea Parabacteroides Bacteroides Pseudomonas Ruminococcus	Agathobacter Barnesiella Coproacter Holdemanella Paraprevotella Phocaecola Subdoligranulum Turicibacter Lachnoclostridium Maihella Haemophilus Prevotella	Roseburia Faecalibacterium Bifidobacterium Akkermansia Lachnospira Oscillospira

**Table S2.** List of main categories of diseases included.

Category Used for the AI/PI Score	MESH Terms Reported in PubMed or Abstract of the Publication
IBD or Inflammation in the gut	Inflammatory Bowel Diseases Irritable Bowel Syndrome Pain with Irritable Bowel Syndrome Crohn Disease Crohn Disease with ASCA Crohn Disease with injury Inflammation Intestinal Diseases Gastroenteritis Gastrointestinal Diseases Colitis Colitis, Ulcerative Diarrhea
Cardiovascular Diseases or hypertension	Atherosclerosis Cardiovascular Diseases Chronic heart failure

	Hypertension Blood pressure
Autoimmune Diseases	Autoimmune Diseases, Multiple Sclerosis, Systemic sclerosis (SSc) Amyotrophic lateral sclerosis
Metabolic Diseases	Metabolic Diseases Metabolic Syndrome
Renal diseases	Renal disease End stage renal disease Diabetic nephropathy Renal Insufficiency, Chronic
Liver Diseases	Liver Diseases Liver Cirrhosis Non-alcoholic Fatty Liver Disease Cystic Fibrosis with Liver Cirrhosis
Diabetes or insulin resistance	Diabetes, Insulin resistance Diabetes Mellitus Diabetes Mellitus, Type 1 and Type2 Gestational diabetes mellitus Obesity with diabetes
Cancer, gastrointestinal tract	Colonic Neoplasms Colonic Polyps Colorectal Neoplasms Colorectal cancer Stomach Neoplasms Neoplasm'
Depression or Bipolar or Schizophrenia or Stress	Depressive Disorder Depressive Disorder, Major, Bipolar Disorder Schizophrenia Anxiety Depression Stress, Physiological Stress, Psychological Mental Disorders Anxiety