

## Microbiome Information for: Fibromyalgia

### For prescribing Medical professionals Review

The suggestions below are based on an Expert System (Artificial Intelligence) modelled after the MYCIN Expert System produced at Stanford University School of Medicine in 1972. The system uses over 1,800,000 facts with backward chaining to sources of information. The typical sources are studies published on the US National Library of Medicine.

Many recent studies has found that symptoms and symptom severity has strong associations to the microbiome for many conditions. Correcting the microbiome dysfunction is beleived to reduce the severity of symptoms. In some cases, this correction may cause symptoms to disappear.

These are a *a priori suggestions* that are predicted to independently reduce microbiome dysfunction. Suggestions should *only be done after a review* by a medical professional factoring in patient's conditions, allergies and other issues.

**This report may be freely shared by a patient to their medical professionals**

---

Best practise for making microbiome adjustments is to obtain the individuals microbiome. The following are the best microbiome to use with this expert system model. The suggestions below are intended as temporary suggestions until a test result in received.

In the USA

Ombre (<https://www.ombrelab.com/>)

Thome (<https://www.thome.com/products/dp/gut-health-test>)

Worldwide: BiomeSight (<https://biomesight.com>) - Discount Code 'MICRO'

### Analysis Provided by Microbiome Prescription

A Microbiome Analysis Company

892 Lake Samish Rd, Bellingham WA 98229

Email: [Research@MicrobiomePrescription.com](mailto:Research@MicrobiomePrescription.com)

## Bacteria being reported because of atypical values.

These bacteria were reported atypical in studies of Fibromyalgia

*Nota Bena:* Many studies are done with a small sample size or mixtures of condition subsets which can greatly diminish the ability to detect bacteria shifts.

Bacteria Name	Rank	Shift	Taxonomy ID	Bacteria Name	Rank	Shift	Taxonomy ID
Lachnospiraceae	family	Low	186803	[Clostridium] scindens	species	High	29347
Ruminococcaceae	family	Low	541000	Agathobaculum desmolans	species	High	39484
Acetivibrio	genus	High	35829	Alistipes onderdonkii	species	High	328813
Alistipes	genus	High	239759	Bacteroides uniformis	species	Low	820
Bacteroides	genus	Low	816	Blautia faecis	species	Low	871665
Bifidobacterium	genus	Low	1678	Blautia hydrogenotrophica	species	High	53443
Blautia	genus	High	572511	Blautia massiliensis	species	High	1737424
Butyricoccus	genus	High	580596	Coprococcus comes	species	Low	410072
Clostridium	genus	Low	1485	Eisenbergiella tayi	species	High	1432052
Dorea	genus	High	189330	Erysipelatoclostridium ramosum	species	High	1547
Eubacterium	genus	Low	1730	Faecalibacterium prausnitzii	species	Low	853
Haemophilus	genus	Low	724	Flavonifractor plautii	species	High	292800
Lachnoclostridium	genus	High	1506553	Haemophilus parainfluenzae	species	Low	729
Lactobacillus	genus	Low	1578	Hungatella hathewayi	species	High	154046
Parabacteroides	genus	High	375288	Intestinimonas butyriciproducens	species	High	1297617
Roseburia	genus	High	841	Parabacteroides merdae	species	High	46503
Eubacteriales	order	High	186802	Prevotella copri	species	Low	165179
				Ruthenibacterium lactatiformans	species	High	1550024

## Substance to Consider Adding or Taking

These are the most significant substances that are likely to improve the microbiome dysfunction. Dosages are based on the dosages used in clinical studies. For more information see: <https://microbiomeprescription.com/library/dosages>. These are provided as examples only

Colors indicates the type of substance: i.e. probiotics and prebiotics, herbs and spices, etc. There is no further meaning to them.

Antibiotics annotated with [CFS] have been used with various degree of success with Myalgic Encephalomyelitis, Chronic Fatigue Syndrome, Chronic Lyme, Chronic Q-Fever and Long COVID conditions. Rotation of antibiotics with 3 weeks off between courses is recommended.

5-fluorouracil,(prescription)  
 amodiaquin dihydrochloride dihydrate,(prescription)  
 amoxapine,(prescription)  
 anethole-trithione,(prescription)  
 anthralin,(prescription)  
 aprepitant,(prescription)  
 azaguanine-8,(prescription)  
 benzylpenicillin sodium (antibiotic)  
 bepridil hydrochloride,(prescription)  
 butenafine hydrochloride,(prescription)  
 cefador hydrate (antibiotic)  
 cefixime (antibiotic)  
 chitosan,(sugar) 3 gram/day  
 chloramphenicol (antibiotic)s  
 chlorotrianisene,(prescription)  
 chlorpromazine hydrochloride,(prescription)  
 chlorprothixene hydrochloride,(prescription)  
 cilnidipine,(prescription)  
 cinoxacin (antibiotic)  
**CLINDAMYCIN (ANTIBIOTIC)S[CFS]**  
 Curcumin 3 gram/day  
 didazuril,(prescription)  
 dicumarol,(prescription)  
**DOXYCYCLINE (ANTIBIOTIC)S[CFS]**  
 entacapone,(prescription)  
**ERYTHROMYCIN (ANTIBIOTIC)S[CFS]**  
 ethaverine hydrochloride,(prescription)  
 etoposide,(prescription)  
 fenbendazole,(prescription)  
 flufenamic acid,(prescription)  
 gentamicin (antibiotic)s  
 gluten-free diet  
 Hesperidin (polyphenol) 1.5 gram/day  
 ibuprofen  
 imipenem (antibiotic)s  
 lansoprazole,(prescription)  
 leflunomide,(prescription)  
 lidoflazine,(prescription)  
 loxapine succinate,(prescription)  
 meclofenamic acid sodium salt monohydrate,(prescription)  
 metixene hydrochloride,(prescription)  
**METRONIDAZOLE (ANTIBIOTIC)S[CFS]**  
 moricizine hydrochloride,(prescription)  
 moxifloxacin (antibiotic)  
 n6-methyladenosine non-drug  
 N-Acetyl Cysteine (NAC), 2400 mg/day  
**NEOMYCIN (ANTIBIOTIC)S[CFS]**  
 nicardipine hydrochloride,(prescription)  
 nitrofurantoin (antibiotic)  
 ofloxacin (antibiotic)s  
 parbendazole,(prescription)  
 pemirolast potassium,(prescription)  
 pimethixene maleate,(prescription)  
 pinaverium bromide,(prescription)  
**piperacillin-tazobactam (antibiotic)s**  
 promazine hydrochloride,(prescription)  
 promethazine hydrochloride,(prescription)  
 rabeprazole sodium salt,(prescription)  
 racepinephrine hcl,(prescription)  
 ribavirin,(prescription)  
 Slippery Elm  
 spectinomycin dihydrochloride (antibiotic)  
 streptomycin (antibiotic)s  
 sucralose 340 mg/day  
 sulfamethoxazole (antibiotic)  
 tenatoprazole non-drug  
 thyme (thymol, thyme oil)  
 tolfenamic acid,(prescription)  
 toltrazuril non-drug  
 trimeprazine tartrate,(prescription)  
 triphala 9000 mg/day  
**VANCOMYCIN (ANTIBIOTIC)[CFS]**  
 vecuronium bromide,(prescription)  
 vitamin a 25000 IU/day  
 vitamin B3,niacin 3000 mg/day  
 Vitamin B9,folic acid 5 mg/day  
 Vitamin C (ascorbic acid) 30 g/day

## Substance to Consider Reducing or Eliminating

These are the most significant substances have been identified as probably contributing to the microbiome dysfunction.

In some cases blood work may show low levels of some vitamins, etc. listed below. This may be due to *greedy* bacteria reported at a high level above. Viewing bacteria data on the Kyoto Encyclopedia of Genes and Genomes (<https://www.kegg.jp/>) may provide better insight on the course of action to take.

apple	Moringa Oleifera
arabinogalactan (prebiotic)	pectin
clostridium butyricum (probiotics), Miya, Miyarisan	quercetin
fasting	red wine
fructo-oligosaccharides (prebiotic)	resistant starch
Human milk oligosaccharides (prebiotic, Holigos, Stachyose)	resveratrol (grape seed/polyphenols/red wine)
inulin (prebiotic)	soy
lactobacillus plantarum (probiotics)	wheat bran
	xylan (prebiotic)

## Sample of Literature Used

The following are the most significant of the studies used to generate these suggestions.

### An association between chronic widespread pain and the gut microbiome.

**Rheumatology (Oxford, England)** , 2020 Dec 17

Authors Freidin MB,Stalteri MA,Wells PM,Lachance G,Baleanu AF,Bowyer RCE,Kurilshikov A,Zhernakova A,Steves CJ,Williams FMK

### Gut microbiome and serum metabolome analyses identify molecular biomarkers and altered glutamate metabolism in fibromyalgia.

**EBioMedicine** , Volume: 46 2019 Aug

Authors Clos-Garcia M,Andrés-Marin N,Fernández-Eulate G,Abecia L,Lavín JL,van Liempd S,Cabrera D,Royo F,Valero A,Errazquin N,Vega MCG,Govillard L,Tackett MR,Tejada G,González E,Anguita J,Bujanda L,Orcasitas AMC,Aransay AM,Maíz O,López de Munain A,Falcón-Pérez JM

### Gut microbiome and serum metabolome analyses identify molecular biomarkers and altered glutamate metabolism in fibromyalgia.

**EBioMedicine** , Volume: 46 2019 Aug

Authors Clos-Garcia M,Andrés-Marin N,Fernández-Eulate G,Abecia L,Lavín JL,van Liempd S,Cabrera D,Royo F,Valero A,Errazquin N,Vega MCG,Govillard L,Tackett MR,Tejada G,González E,Anguita J,Bujanda L,Orcasitas AMC,Aransay AM,Maíz O,López de Munain A,Falcón-Pérez JM

### Altered microbiome composition in individuals with fibromyalgia.

**Pain** , Volume: 160 Issue: 11 2019 Nov

Authors Minerbi A,Gonzalez E,Brereton NJB,Anjarkouchian A,Dewar K,Fitzcharles MA,Chevalier S,Shir Y

### Altered microbiome composition in individuals with fibromyalgia.

**Pain** , 2019 Jun 18

Authors Minerbi A,Gonzalez E,Brereton NJB,Anjarkouchian A,Dewar K,Fitzcharles MA,Chevalier S,Shir Y

### Estimating modifiers from bacteria associations

**Microbiome Prescription** , Volume: 2023 Issue: 3 2023 Apr

Authors K Lassesen

### Longitudinal effects of oral administration of antimicrobial drugs on fecal microbiota of horses.

**Journal of veterinary internal medicine** , 2023 Sep 8

Authors Gomez D,Toribio R,Cadley B,Costa M,Vijan S,Dembek K

### Positive efficacy of Lactiplantibacillus plantarum MH-301 as a postoperative adjunct to endoscopic sclerotherapy for internal hemorrhoids: a randomized, double-blind, placebo-controlled trial.

**Food & function** , 2023 Sep 1

Authors Zhang K,Liu H,Liu P,Feng Q,Gan L,Yao L,Huang G,Fang Z,Chen T,Fang N

### Influences of wheat bran fiber on growth performance, nutrient digestibility, and intestinal epithelium functions in Xiangcun pigs.

**Heliyon** , Volume: 9 Issue: 7 2023 Jul

Authors Liu J,Luo Y,Kong X,Yu B,Zheng P,Huang Z,Mao X,Yu J,Luo J,Yan H,He J

### Bile Acids and Short-Chain Fatty Acids Are Modulated after Onion and Apple Consumption in Obese Zucker Rats.

**Nutrients** , Volume: 15 Issue: 13 2023 Jul 5

Authors Balderas C,de Ancos B,Sánchez-Moreno C

### Investigating the modulatory effects of Moringa oleifera on the gut microbiota of chicken model through metagenomic approach.

**Frontiers in veterinary science** , Volume: 10 2023

Authors Soundararajan S,Selvakumar J,Maria Joseph ZM,Gopinath Y,Saravanan V,Santhanam R

### Targeted modification of gut microbiota and related metabolites via dietary fiber.

**Carbohydrate polymers** , Volume: 316 2023 Sep 15

Authors Nie Q,Sun Y,Li M,Zuo S,Chen C,Lin Q,Nie S

### Effects of fenbendazole on fecal microbiome in BPH/5 mice, a model of hypertension and obesity, a brief report.

**PloS one** , Volume: 18 Issue: 6 2023

Authors Beckers KF,Schulz CJ,Liu CC,Barras ED,Childers GW,Stout RW,Sones JL

### Gentamicin alleviates cholestatic liver injury by decreasing gut microbiota-associated bile salt hydrolase activity in rats.

**European journal of pharmacology** , Volume: 951 2023 May 12

Authors Ma Y,Wang H,Yang J,Xin M,Wu X

### Folic acid attenuates chronic visceral pain by reducing Clostridiales abundance and hydrogen sulfide production.

**Molecular pain** , 2022 Dec 22

Authors Weng RX,Wei YX,Li YC,Xu X,Zhuang JB,Xu GY,Li R

Comprehensive analysis of microbiome, metabolome and transcriptome revealed the mechanisms of Moringa oleifera polysaccharide on preventing ulcerative colitis.

**International journal of biological macromolecules** , Volume: 222 Issue: Pt A 2022 Dec 1

Authors Tian H,Wen Z,Liu Z,Guo Y,Liu G,Sun B

Dietary Moringa oleifera leaf powder improves jejunal permeability and digestive function by modulating the microbiota composition and mucosal immunity in heat stressed rabbits.

**Environmental science and pollution research international** , Volume: 29 Issue: 53 2022 Nov

Authors Khalid AR,Yasoob TB,Zhang Z,Zhu X,Hang S

Miya Improves Osteoarthritis Characteristics via the Gut-Muscle-Joint Axis According to Multi-Omics Analyses.

**Frontiers in pharmacology** , Volume: 13 2022

Authors Xu T,Yang D,Liu K,Gao Q,Liu Z,Li G

Crude Polysaccharide Extracted From Moringa oleifera Leaves Prevents Obesity in Association With Modulating Gut Microbiota in High-Fat Diet-Fed Mice.

**Frontiers in nutrition** , Volume: 9 2022

Authors Li L,Ma L,Wen Y,Xie J,Yan L, Ji A,Zeng Y,Tian Y,Sheng J

Substitution of Refined Conventional Wheat Flour with Wheat High in Resistant Starch Modulates the Intestinal Microbiota and Fecal Metabolites in Healthy Adults: A Randomized, Controlled Trial.

**The Journal of nutrition** , 2022 Jan 31

Authors Gondalia SV,Wymond B,Benassi-Evans B,Berbezy P,Bird AR,Belobrajdic DP

Chitosan Protects Immunosuppressed Mice Against *Cryptosporidium parvum* Infection Through TLR4/STAT1 Signaling Pathways and Gut Microbiota Modulation.

**Frontiers in immunology** , Volume: 12 2021

Authors Rahman SU,Gong H,Mi R,Huang Y,Han X,Chen Z

Curcumin  $\beta$ -D-Glucuronide Modulates an Autoimmune Model of Multiple Sclerosis with Altered Gut Microbiota in the Ileum and Feces.

**Frontiers in cellular and infection microbiology** , Volume: 11 2021

Authors Khadka S,Omura S,Sato F,Nishio K,Takeya H,Tsunoda I

Gut microbiota modulation as a possible mediating mechanism for fasting-induced alleviation of metabolic complications: a systematic review.

**Nutrition & metabolism** , Volume: 18 Issue: 1 2021 Dec 14

Authors Angoorani P,Ejtahed HS,Hasani-Ranjbar S,Siadat SD,Soroush AR,Larijani B

The relationship between human milk, a functional nutrient, and microbiota.

**Critical reviews in food science and nutrition** , 2021 Dec 6

Authors Sakarya E,Sanlier NT,Sanlier N

Fructooligosaccharides Increase in Plasma Concentration of (-)-Epigallocatechin-3-Gallate in Rats.

**Journal of agricultural and food chemistry** , Volume: 69 Issue: 49 2021 Dec 15

Authors Unno T,Araki Y,Inagaki S,Kobayashi M,Ichitani M,Takahara T,Kinugasa H

Regulatory Effect of Resveratrol on Inflammation Induced by Lipopolysaccharides via Reprogramming Intestinal Microbes and Ameliorating Serum Metabolism Profiles.

**Frontiers in immunology** , Volume: 12 2021

Authors Ding S,Jiang H,Fang J,Liu G

*Bifidobacterium* catabolism of human milk oligosaccharides overrides endogenous competitive exclusion driving colonization and protection.

**Gut microbes** , Volume: 13 Issue: 1 2021 Jan-Dec

Authors Heiss BE,Ehrlich AM,Maldonado-Gomez MX,Taft DH,Larke JA,Goodson ML,Slupsky CM,Tancredi DJ,Raybould HE,Mills DA

Effects of fermented wheat bran and yeast culture on growth performance, immunity and intestinal microflora in growing-finishing pigs.

**Journal of animal science** , 2021 Oct 23

Authors He W,Gao Y,Guo Z,Yang Z,Wang X,Liu H,Sun H,Shi B

Supplementation with *Lactiplantibacillus plantarum* IMC 510 Modifies Microbiota Composition and Prevents Body Weight Gain Induced by Cafeteria Diet in Rats.

**International journal of molecular sciences** , Volume: 22 Issue: 20 2021 Oct 16

Authors Micioni Di Bonaventura MV,Coman MM,Tomassoni D,Micioni Di Bonaventura E,Botticelli L,Gabrielli MG,Rossolini GM,Di Pilato V,Cecchini C,Amedei A,Silvi S,Verdenelli MC,Cifani C

In Vitro Study of Cricket Chitosan`s Potential as a Prebiotic and a Promoter of Probiotic Microorganisms to Control Pathogenic Bacteria in the Human Gut.

**Foods (Basel, Switzerland)** , Volume: 10 Issue: 10 2021 Sep 29

*Authors Kipkoech C,Kinyuru JN,Imathiu S,Meyer-Rochow VB,Roos N*

Positive Synergistic Effects of Quercetin and Rice Bran on Human Gut Microbiota Reduces Enterobacteriaceae Family Abundance and Elevates Propionate in a Bioreactor Model.

**Frontiers in microbiology** , Volume: 12 2021

*Authors Ghimire S,Wongkuna S,Sankaranarayanan R,Ryan EP,Bhat GJ,Scaria J*

Unravelling the collateral damage of antibiotics on gut bacteria.

**Nature** , Volume: 599 Issue: 7883 2021 Nov

*Authors Maier L,Goemans CV,Wirbel J,Kuhn M,Eberl C,Pruteanu M,Müller P,Garcia-Santamarina S,Cacace E,Zhang B,Gekeler C,Banerjee T,Anderson EE,Milanese A,Löber U,Forslund SK,Patil KR,Zimmermann M,Stecher B,Zeller G,Bork P,Typas A*

In vitro digestibility and prebiotic activities of a bioactive polysaccharide from Moringa oleifera leaves.

**Journal of food biochemistry** , Volume: 45 Issue: 11 2021 Nov

*Authors Li C,Zhou S,Fu X,Huang Q,Chen Q*

The Prebiotic Potential of Inulin-type Fructans: A Systematic Review.

**Advances in nutrition (Bethesda, Md.)** , 2021 Sep 23

*Authors Hughes RL,Alvarado DA,Swanson KS,Holscher HD*

The role of genotype and diet in shaping gut microbiome in a genetic Vitamin A deficient mouse model.

**Journal of genetics and genomics = Yi chuan xue bao** , 2021 Sep 16

*Authors Xu J,Zhang JN,Sun BH,Liu Q,Ma J,Zhang Q,Liu YX,Chen N,Chen F*

The Protection of *Lactiplantibacillus plantarum* CCFM8661 Against Benzopyrene-Induced Toxicity via Regulation of the Gut Microbiota.

**Frontiers in immunology** , Volume: 12 2021

*Authors Yu L,Zhang L,Duan H,Zhao R,Xiao Y,Guo M,Zhao J,Zhang H,Chen W,Tian F*

Prebiotic fructans have greater impact on luminal microbiology and CD3+ T cells in healthy siblings than patients with Crohn's disease: A pilot study investigating the potential for primary prevention of inflammatory bowel disease.

**Clinical nutrition (Edinburgh, Scotland)** , Volume: 40 Issue: 8 2021 Jun 23

*Authors Hedin CR,McCarthy NE,Louis P,Farquharson FM,McCartney S,Stagg AJ,Lindsay JO,Whelan K*

Concentrated Raw Fibers Enhance the Fiber-Degrading Capacity of a Synthetic Human Gut Microbiome.

**International journal of molecular sciences** , Volume: 22 Issue: 13 2021 Jun 25

*Authors Steimle A,Neumann M,Grant ET,Turner JD,Desai MS*

Nrf2/ARE Activators Improve Memory in Aged Mice via Maintaining of Mitochondrial Quality Control of Brain and the Modulation of Gut Microbiome.

**Pharmaceuticals (Basel, Switzerland)** , Volume: 14 Issue: 7 2021 Jun 23

*Authors Sadovnikova IS,Gureev AP,Ignatyeva DA,Gryaznova MV,Chernyshova EV,Krutsikikh EP,Novikova AG,Popov VN*

Effect of Dietary Inulin Supplementation on the Gut Microbiota Composition and Derived Metabolites of Individuals Undergoing Hemodialysis: A Pilot Study.

**Journal of renal nutrition : the official journal of the Council on Renal Nutrition of the National Kidney Foundation** , 2021 Jun 11

*Authors Biruete A,Cross TL,Allen JM,Kistler BM,de Looor H,Evenepoel P,Fahey GC Jr,Bauer L,Swanson KS,Wilund KR*

Resveratrol and its derivative pterostilbene ameliorate intestine injury in intrauterine growth-retarded weanling piglets by modulating redox status and gut microbiota.

**Journal of animal science and biotechnology** , Volume: 12 Issue: 1 2021 Jun 10

*Authors Chen Y,Zhang H,Chen Y,Jia P,Shi S,Zhang Y,Wang T*

Effect of Vitamin A Supplementation on Growth Performance, Serum Biochemical Parameters, Intestinal Immunity Response and Gut Microbiota in American Mink (*Neovison vison*).

**Animals : an open access journal from MDPI** , Volume: 11 Issue: 6 2021 May 28

*Authors Nan W,Si H,Yang Q,Shi H,Zhang T,Shi Q,Li G,Zhang H,Liu H*

Beneficial gut microbiome remodeled during intermittent fasting in humans.

**Rejuvenation research** , 2021 May 27

*Authors Larrick JW,Mendelsohn AR,Larrick J*

A multi-omics approach for understanding the effects of moderate wine consumption on human intestinal health.

**Food & function** , Volume: 12 Issue: 9 2021 May 11

*Authors Belda I,Cueva C,Tamargo A,Ravarani CN,Acedo A,Bartolomé B,Moreno-Arribas MV*

Clearance of *Clostridioides difficile* Colonization Is Associated with Antibiotic-Specific Bacterial Changes.

**mSphere** , Volume: 6 Issue: 3 2021 May 5

*Authors Lesniak NA,Schubert AM,Sinani H,Schloss PD*

Lactobacillus Sps in Reducing the Risk of Diabetes in High-Fat Diet-Induced Diabetic Mice by Modulating the Gut Microbiome and Inhibiting Key Digestive Enzymes Associated with Diabetes.

**Biology** , Volume: 10 Issue: 4 2021 Apr 20

Authors Gulnaz A,Nadeem J,Han JH,Lew LC,Son JD,Park YH,Rather IA,Hor YY

The Anti-Inflammatory Effect and Mucosal Barrier Protection of *Clostridium butyricum* RH2 in Ceftriaxone-Induced Intestinal Dysbacteriosis.

**Frontiers in cellular and infection microbiology** , Volume: 11 2021

Authors Li Y,Liu M,Liu H,Sui X,Liu Y,Wei X,Liu C,Cheng Y,Ye W,Gao B,Wang X,Lu Q,Cheng H,Zhang L,Yuan J,Li M

Cloudy Apple Juice Fermented by *Lactobacillus* Prevents Obesity via Modulating Gut Microbiota and Protecting Intestinal Tract Health.

**Nutrients** , Volume: 13 Issue: 3 2021 Mar 17

Authors Han M,Zhang M,Wang X,Bai X,Yue T,Gao Z

Potato resistant starch inhibits diet-induced obesity by modifying the composition of intestinal microbiota and their metabolites in obese mice.

**International journal of biological macromolecules** , Volume: 180 2021 Mar 9

Authors Liang D,Zhang L,Chen H,Zhang H,Hu H,Dai X

Effect of Quercetin on Lipids Metabolism Through Modulating the Gut Microbial and AMPK/PPAR Signaling Pathway in Broilers.

**Frontiers in cell and developmental biology** , Volume: 9 2021

Authors Wang M,Wang B,Wang S,Lu H,Wu H,Ding M,Ying L,Mao Y,Li Y

Effects of colon-targeted vitamins on the composition and metabolic activity of the human gut microbiome- a pilot study.

**Gut microbes** , Volume: 13 Issue: 1 2021 Jan-Dec

Authors Pham VT,Fehlbaum S,Seifert N,Richard N,Bruins MJ,Sybesma W,Rehman A,Steinert RE

Selective Utilization of the Human Milk Oligosaccharides 2`-Fucosyllactose, 3-Fucosyllactose, and Difucosyllactose by Various Probiotic and Pathogenic Bacteria.

**Journal of agricultural and food chemistry** , Volume: 69 Issue: 1 2021 Jan 13

Authors Salli K,Hirvonen J,Siitonen J,Ahonen I,Angenius H,Maukonen J

Exopolysaccharides from *Lactobacillus plantarum* YW11 improve immune response and ameliorate inflammatory bowel disease symptoms.

**Acta biochimica Polonica** , Volume: 67 Issue: 4 2020 Dec 17

Authors Min Z,Xiaona H,Aziz T,Jian Z,Zhennai Y

Adjunctive treatment with probiotics partially alleviates symptoms and reduces inflammation in patients with irritable bowel syndrome.

**European journal of nutrition** , 2020 Nov 22

Authors Xu H,Ma C,Zhao F,Chen P,Liu Y,Sun Z,Cui L,Kwok LY,Zhang H

Effects of Different Human Milk Oligosaccharides on Growth of *Bifidobacteria* in Monoculture and Co-culture With *Faecalibacterium prausnitzii*.

**Frontiers in microbiology** , Volume: 11 2020

Authors Cheng L,Kiewiet MBG,Logtenberg MJ,Groeneveld A,Nauta A,Schols HA,Walvoort MTC,Harmsen HJM,de Vos P

Prebiotic-like effects of chitosan on the intestinal microflora in mice.

**Pakistan journal of pharmaceutical sciences** , Volume: 33 Issue: 3 2020 May

Authors Zhang D,Xing Y,Liu LK,Li XL

Alginate- and Gelatin-Coated Apple Pieces as Carriers for *Bifidobacterium animalis* subsp. *lactis* DSM 10140.

**Frontiers in microbiology** , Volume: 11 2020

Authors Campaniello D,Bevilacqua A,Speranza B,Sinigaglia M,Corbo MR

Modulatory Effects of Triphala and Manjistha Dietary Supplementation on Human Gut Microbiota: A Double-Blind, Randomized, Placebo-Controlled Pilot Study.

**Journal of alternative and complementary medicine (New York, N.Y.)** , 2020 Sep 18

Authors Peterson CT,Pourang A,Dhaliwal S,Kohn JN,Uchitel S,Singh H,Mills PJ,Peterson SN,Sivamani RK

Modulatory Effects of Triphala and Manjistha Dietary Supplementation on Human Gut Microbiota: A Double-Blind, Randomized, Placebo-Controlled Pilot Study.

**Journal of alternative and complementary medicine (New York, N.Y.)** , Volume: 26 Issue: 11 2020 Nov

Authors Peterson CT,Pourang A,Dhaliwal S,Kohn JN,Uchitel S,Singh H,Mills PJ,Peterson SN,Sivamani RK

Relative abundance of the *Prevotella* genus within the human gut microbiota of elderly volunteers determines the inter-individual responses to dietary supplementation with wheat bran arabinoxylan-oligosaccharides.

**BMC microbiology** , Volume: 20 Issue: 1 2020 Sep 14

Authors Chung WSF,Walker AW,Bosscher D,Garcia-Campayo V,Wagner J,Parkhill J,Duncan SH,Flint HJ

The Protective Effects of 2`-Fucosyllactose against *E. Coli* O157 Infection Are Mediated by the Regulation of Gut Microbiota and the Inhibition of Pathogen Adhesion.

**Nutrients** , Volume: 12 Issue: 5 2020 May 1

Authors Wang Y,Zou Y,Wang J,Ma H,Zhang B,Wang S



[2'-fucosyllactose Supplementation Improves Gut-Brain Signaling and Diet-Induced Obese Phenotype and Changes the Gut Microbiota in High Fat-Fed Mice.](#)

**Nutrients** , Volume: 12 Issue: 4 2020 Apr 5

Authors Lee S,Goodson M,Vang W,Kalanetra K,Barile D,Raybould H

[Conserved and variable responses of the gut microbiome to resistant starch type 2](#)

**Nutrition research (New York, N.Y.)** , Volume: 77 2020 Feb 22

Authors Bendiks ZA,Knudsen KEB,Keenan MJ,Marco ML

[Beneficial effects of flaxseed polysaccharides on metabolic syndrome via gut microbiota in high-fat diet fed mice.](#)

**Food research international (Ottawa, Ont.)** , Volume: 131 2020 May

Authors Yang C,Xu Z,Deng Q,Huang Q,Wang X,Huang F

[Prebiotic activity of garlic \(\*Allium sativum\*\) extract on \*Lactobacillus acidophilus\*.](#)

**Veterinary world** , Volume: 12 Issue: 12 2019 Dec

Authors Sunu P,Sunarti D,Mahfudz LD,Yunianto VD

[Dietary prophage inducers and antimicrobials: toward landscaping the human gut microbiome.](#)

**Gut microbes** , 2020 Jan 13

Authors Boling L,Cuevas DA,Grasis JA,Kang HS,Knowles B,Levi K,Maughan H,McNair K,Rojas MI,Sanchez SE,Smurthwaite C,Rohwer F

[Carboxymethyl chitosan perturbs inflammation profile and colonic microbiota balance in mice.](#)

**Journal of food and drug analysis** , Volume: 28 Issue: 1 2020 Jan

Authors Liu Y,Zong S,Li J

[Effect of dietary Moringa oleifera leaves on the performance, ileal microbiota and antioxidative status of broiler chickens.](#)

**Journal of animal physiology and animal nutrition** , Volume: 104 Issue: 2 2020 Mar

Authors Abu Hafsa SH,Ibrahim SA,Eid YZ,Hassan AA

[Islamic fasting leads to an increased abundance of Akkermansia muciniphila and Bacteroides fragilis group: A preliminary study on intermittent fasting.](#)

**The Turkish journal of gastroenterology : the official journal of Turkish Society of Gastroenterology** , Volume: 30 Issue: 12 2019 Dec

Authors Özkul C,Yalinay M,Karakan T

[Chitosan Ameliorates DSS-Induced Ulcerative Colitis Mice by Enhancing Intestinal Barrier Function and Improving Microflora.](#)

**International journal of molecular sciences** , Volume: 20 Issue: 22 2019 Nov 15

Authors Wang J,Zhang C,Guo C,Li X

[Dietary resistant starch modifies the composition and function of caecal microbiota of broilers.](#)

**Journal of the science of food and agriculture** , Volume: 100 Issue: 3 2020 Feb

Authors Zhang Y,Liu Y,Li J,Xing T,Jiang Y,Zhang L,Gao F

[The effect of inulin and resistant maltodextrin on weight loss during energy restriction: a randomised, placebo-controlled, double-blinded intervention.](#)

**European journal of nutrition** , 2019 Oct 11

Authors Hess AL,Benítez-Páez A,Blädel T,Larsen LH,Iglesias JR,Madera C,Sanz Y,Larsen TM,MyNewGut Consortium.

[Immunomodulatory and Prebiotic Effects of 2'-Fucosyllactose in Suckling Rats.](#)

**Frontiers in immunology** , Volume: 10 2019

Authors Azagra-Boronat I,Massot-Cladera M,Mayneris-Perxachs J,Knipping K,Van't Land B,Tims S,Stahl B,Garssen J,Franch À,Castell M,Rodríguez-Lagunas MJ,Pérez-Cano FJ

[Dietary Factors and Modulation of Bacteria Strains of \*Akkermansia muciniphila\* and \*Faecalibacterium prausnitzii\*: A Systematic Review.](#)

**Nutrients** , Volume: 11 Issue: 7 2019 Jul 11

Authors Verhoog S,Taneri PE,Roa Díaz ZM,Marques-Vidal P,Troup JP,Bally L,Franco OH,Glisic M,Muka T

[Supplementation of diet with non-digestible oligosaccharides alters the intestinal microbiota, but not arthritis development, in IL-1 receptor antagonist deficient mice.](#)

**PloS one** , Volume: 14 Issue: 7 2019

Authors Rogier R,Ederveen THA,Wopereis H,Hartog A,Boekhorst J,van Hijum SAFT,Knol J,Garssen J,Walgreen B,Helsen MM,van der Kraan PM,van Lent PLEM,van de Loo FAJ,Abdollahi-Roodsaz S,Koenders MI

[Different duck products protein on rat physiology and gut microbiota.](#)

**Journal of proteomics** , Volume: 206 2019 Jun 29

Authors Wei T,Dang Y,Cao J,Wu Z,He J,Sun Y,Pan D,Tian Z

[Bacteroides thetaiotaomicron Starch Utilization Promotes Quercetin Degradation and Butyrate Production by Eubacterium ramulus.](#)

**Frontiers in microbiology** , Volume: 10 2019

Authors Rodríguez-Castaño GP,Dorris MR,Liu X,Bolling BW,Acosta-Gonzalez A,Rey FE

[Resveratrol attenuates high-fat diet-induced non-alcoholic steatohepatitis by maintaining gut barrier integrity and inhibiting gut inflammation through regulation of the endocannabinoid system.](#)

**Clinical nutrition (Edinburgh, Scotland) , 2019 May 30**

Authors Chen M,Hou P,Zhou M,Ren Q,Wang X,Huang L,Hui S,Yi L,Mi M

[Dietary Quercetin Increases Colonic Microbial Diversity and Attenuates Colitis Severity in \*Citrobacter rodentium\*-Infected Mice.](#)

**Frontiers in microbiology , Volume: 10 2019**

Authors Lin R,Piao M,Song Y

[The role of short-chain fatty acids in microbiota-gut-brain communication.](#)

**Nature reviews. Gastroenterology & hepatology , Volume: 16 Issue: 8 2019 Aug**

Authors Dalile B, Van Oudenhove L, Vervliet B, Verbeke K

[Fermented \*Momordica charantia\* L juice modulates hyperglycemia, lipid profile, and gut microbiota in type 2 diabetic rats.](#)

**Food research international (Ottawa, Ont.) , Volume: 121 2019 Jul**

Authors Gao H,Wen JJ,Hu JL,Nie QX,Chen HH,Xiong T,Nie SP,Xie MY

[Arabinoxylan from Argentinian whole wheat flour promote the growth of \*Lactobacillus reuteri\* and \*Bifidobacterium breve\*.](#)

**Letters in applied microbiology , Volume: 68 Issue: 2 2019 Feb**

Authors Paesani C,Salvucci E,Moiraghi M,Fernandez Canigía L,Pérez GT

[A low-gluten diet induces changes in the intestinal microbiome of healthy Danish adults.](#)

**Nature communications , Volume: 9 Issue: 1 2018 Nov 13**

Authors Hansen LBS,Roager HM,Søndertoft NB,Gøbel RJ,Kristensen M,Vallès-Colomer M,Vieira-Silva S,Ibrügger S,Lind MV,Mærkedahl RB,Bahl MI,Madsen ML,Havelund J,Falony G,Tetens I,Nielsen T,Allin KH,Frandsen HL,Hartmann B,Holst JJ,Sparholt MH,Holck J,Blennow A,Moll JM,Meyer AS,Hoppe C,Poulsen JH,Carvalho V,Sagnelli D,Dalgaard MD,Christensen AF,Lyldolph MC,Ross AB,Villas-Bôas S,Brix S,Sicheritz-Pontén T,Buschard K,Linneberg A,Rumessen JJ,Ekstrøm CT,Ritz C,Kristiansen K,Nielsen HB,Vestergaard H,Færgeman NJ,Raes J,Frøkiær H,Hansen T,Lauritzen L,Gupta R,Licht TR,Pedersen O

[Inulin-type fructans improve active ulcerative colitis associated with microbiota changes and increased short-chain fatty acids levels.](#)

**Gut microbes , 2018 Nov 5**

Authors Valcheva R,Koleva P,Martínez I,Walter J,Gänzle MG,Dieleman LA

[Exploring Effects of Chitosan Oligosaccharides on Mice Gut Microbiota in \*in vitro\* Fermentation and Animal Model.](#)

**Frontiers in microbiology , Volume: 9 2018**

Authors Zhang C,Jiao S,Wang ZA,Du Y

[Effects of dietary supplementation with \*Clostridium butyricum\* on laying performance, egg quality, serum parameters, and cecal microflora of laying hens in the late phase of production.](#)

**Poultry science , Volume: 98 Issue: 2 2019 Feb 1**

Authors Zhan HQ,Dong XY,Li LL,Zheng YX,Gong YJ,Zou XT

[Investigating of \*Moringa Oleifera\* Role on Gut Microbiota Composition and Inflammation Associated with Obesity Following High Fat Diet Feeding.](#)

**Open access Macedonian journal of medical sciences , Volume: 6 Issue: 8 2018 Aug 20**

Authors Elabd EMY,Morsy SM,Elmalt HA

[Introducing insoluble wheat bran as a gut microbiota niche in an \*in vitro\* dynamic gut model stimulates propionate and butyrate production and induces colon region specific shifts in the luminal and mucosal microbial community.](#)

**Environmental microbiology , Volume: 20 Issue: 9 2018 Sep**

Authors De Paepe K,Verspreet J,Verbeke K,Raes J,Courtin CM, Van de Wiele T

[Inulin fiber dose-dependently modulates energy balance, glucose tolerance, gut microbiota, hormones and diet preference in high-fat-fed male rats.](#)

**The Journal of nutritional biochemistry , Volume: 59 2018 Sep**

Authors Singh A,Zapata RC,Pezeshki A,Reidelberger RD,Chelikani PK

[Pectin Alleviates High Fat \(Lard\) Diet-Induced Nonalcoholic Fatty Liver Disease in Mice: Possible Role of Short-Chain Fatty Acids and Gut Microbiota Regulated by Pectin.](#)

**Journal of agricultural and food chemistry , 2018 Jul 20**

Authors Li W,Zhang K,Yang H

[Role of probiotics in the treatment of minimal hepatic encephalopathy in patients with HBV-induced liver cirrhosis.](#)

**The Journal of international medical research , Volume: 46 Issue: 9 2018 Sep**

Authors Xia X,Chen J,Xia J,Wang B,Liu H,Yang L,Wang Y,Ling Z

[Niacin alters the ruminal microbial composition of cattle under high-concentrate condition.](#)

**Animal nutrition (Zhongguo xu mu shou yi xue hui) , Volume: 3 Issue: 2 2017 Jun**

Authors Luo D,Gao Y,Lu Y,Qu M,Xiong X,Xu L,Zhao X,Pan K,Ouyang K

[Catechin supplemented in a FOS diet induces weight loss by altering cecal microbiota and gene expression of colonic](#)

epithelial cells.

**Food & function** , Volume: 9 Issue: 5 2018 May 23

Authors Luo J,Han L,Liu L,Gao L,Xue B,Wang Y,Ou S,Miller M,Peng X

Dietary Clostridium butyricum Induces a Phased Shift in Fecal Microbiota Structure and Increases the Acetic Acid-Producing Bacteria in a Weaned Piglet Model.

**Journal of agricultural and food chemistry** , Volume: 66 Issue: 20 2018 May 23

Authors Zhang J,Chen X,Liu P,Zhao J,Sun J,Guan W,Johnston LJ,Levesque CL,Fan P,He T,Zhang G,Ma X

Lactobacillus plantarum MTCC 9510 supplementation protects from chronic unpredictable and sleep deprivation-induced behaviour, biochemical and selected gut microbial aberrations in mice.

**Journal of applied microbiology** , Volume: 125 Issue: 1 2018 Jul

Authors Dhaliwal J,Singh DP,Singh S,Pinnaka AK,Boparai RK,Bishnoi M,Kondepudi KK,Chopra K

Prebiotic Potential of Herbal Medicines Used in Digestive Health and Disease.

**Journal of alternative and complementary medicine (New York, N.Y.)** , Volume: 24 Issue: 7 2018 Jul

Authors Peterson CT,Sharma V,Uchitel S,Denniston K,Chopra D,Mills PJ,Peterson SN

Extensive impact of non-antibiotic drugs on human gut bacteria.

**Nature** , Volume: 555 Issue: 7698 2018 Mar 29

Authors Maier L,Pruteanu M,Kuhn M,Zeller G,Telzerow A,Anderson EE,Brochado AR,Fernandez KC,Dose H,Mori H,Patil KR,Bork P,Typas A

Wheat-derived arabinoxylan oligosaccharides with bifidogenic properties abolishes metabolic disorders induced by western diet in mice.

**Nutrition & diabetes** , Volume: 8 Issue: 1 2018 Mar 7

Authors Neyrinck AM,Hiel S,Bouzin C,Campayo VG,Cani PD,Bindels LB,Delzenne NM

Xylan supplement improves 1,3-propanediol fermentation by Clostridium butyricum.

**Journal of bioscience and bioengineering** , 2018 Mar 10

Authors Apiwatanapiwat W,Vaithanomsat P,Thanapase W,Ratanakhanokchai K,Kosugi A

Inulin-type fructan improves diabetic phenotype and gut microbiota profiles in rats.

**PeerJ** , Volume: 6 2018

Authors Zhang Q,Yu H,Xiao X,Hu L,Xin F,Yu X

Prebiotic Wheat Bran Fractions Induce Specific Microbiota Changes.

**Frontiers in microbiology** , Volume: 9 2018

Authors D`hoe K,Conterno L,Fava F,Falony G,Vieira-Silva S,Vermeiren J,Tuohy K,Raes J

Potential of Lactobacillus plantarum ZDY2013 and Bifidobacterium bifidum WBIN03 in relieving colitis by gut microbiota, immune, and anti-oxidative stress.

**Canadian journal of microbiology** , 2018 Feb 5

Authors Wang Y,Guo Y,Chen H,Wei H,Wan C

[Assessment of the impact of vitamin and dietary fiber content in the diet on the characteristics of protective colon microbiota populations of rats].

**Voprosy pitaniia** , Volume: 84 Issue: 6 2015

Authors Markova YM,Sheveleva SA

Bacteriostatic Effect of Quercetin as an Antibiotic Alternative In Vivo and Its Antibacterial Mechanism In Vitro.

**Journal of food protection** , Volume: 81 Issue: 1 2018 Jan

Authors Wang S,Yao J,Zhou B,Yang J,Chaudry MT,Wang M,Xiao F,Li Y,Yin W

Doxycycline induces dysbiosis in female C57BL/6NCR1 mice

**BMC Research Notes** , Volume: 10 2017 Nov 29

Authors Boynton FD,Ericsson AC,Uchihashi M,Dunbar ML,Wilkinson JE

Low-Molecular-Weight Chitosan Supplementation Increases the Population of <i>Prevotella</i> in the Cecal Contents of Weanling Pigs.

**Frontiers in microbiology** , Volume: 8 2017

Authors Yu T,Wang Y,Chen S,Hu M,Wang Z,Wu G,Ma X,Chen Z,Zheng C

## Additional APriori Analysis Available

Available at: <https://microbiomeprescription.com/Library/PubMed>

Acne

ADHD

Allergic Rhinitis (Hay Fever)

Allergies  
Alopecia (Hair Loss)  
Alzheimer's disease  
Amyotrophic lateral sclerosis (ALS) Motor Neuron  
Ankylosing spondylitis  
Anorexia Nervosa  
Antiphospholipid syndrome (APS)  
Asthma  
Atherosclerosis  
Autism  
Autoimmune Disease  
Barrett esophagus cancer  
Bipolar Disorder  
Brain Trauma  
Carcinoma  
Celiac Disease  
Cerebral Palsy  
Chronic Fatigue Syndrome  
Chronic Kidney Disease  
Chronic Lyme  
Chronic Obstructive Pulmonary Disease (COPD)  
Chronic Urticaria (Hives)  
Coagulation / Micro clot triggering bacteria  
Colorectal Cancer  
Constipation  
Coronary artery disease  
COVID-19  
Crohn's Disease  
cystic fibrosis  
deep vein thrombosis  
Depression  
Dermatomyositis  
Eczema  
Endometriosis  
Eosinophilic Esophagitis  
Epilepsy  
Fibromyalgia  
Functional constipation / chronic idiopathic constipation  
gallstone disease (gsd)  
Gastroesophageal reflux disease (Gerd) including Barrett's esophagus  
Generalized anxiety disorder  
Gout  
Graves' disease  
Hashimoto's thyroiditis  
Hidradenitis Suppurativa  
Histamine Issues From Ubiome  
Histamine Issues, Mast Cell Issue, DAO Insufficiency  
hypercholesterolemia (High Cholesterol)  
hyperglycemia  
Hyperlipidemia (High Blood Fats)  
hypersomnia  
hypertension (High Blood Pressure)  
Hypoxia  
IgA nephropathy (IgAN)  
Inflammatory Bowel Disease  
Insomnia  
Intelligence  
Irritable Bowel Syndrome

Juvenile idiopathic arthritis  
Liver Cirrhosis  
Long COVID  
Lung Cancer  
ME/CFS with IBS  
ME/CFS without IBS  
Menopause  
Metabolic Syndrome  
Mood Disorders  
Multiple Sclerosis  
Multiple system atrophy (MSA)  
Neuropathy (all types)  
neuropsychiatric disorders (PANDAS, PANS)  
Nonalcoholic Fatty Liver Disease (nafld) Nonalcoholic  
NonCeliac Gluten Sensitivity  
Obesity  
obsessive-compulsive disorder  
Osteoarthritis  
Osteoporosis  
Parkinson's Disease  
Postural orthostatic tachycardia syndrome  
Premenstrual dysphoric disorder  
Psoriasis  
rheumatoid arthritis (RA),Spondyloarthritis (SpA)  
Rosacea  
Schizophrenia  
Sjögren syndrome  
Sleep Apnea  
Small Intestinal Bacterial Overgrowth (SIBO)  
Stress / posttraumatic stress disorder  
Systemic Lupus Erythematosus  
Tic Disorder  
Tourette syndrome  
Type 1 Diabetes  
Type 2 Diabetes  
Ulcerative colitis  
Unhealthy Ageing