

Microbiome Information for: Alopecia (Hair Loss)

For non-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

Bacteria being reported because of atypical values.

These bacteria were reported atypical in studies of Alopecia (Hair Loss)

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
Eggerthellaceae	family	High	1643826	Pseudomonas	genus	High	286
Erysipelotrichaceae	family	High	128827	Sphingomonas	genus	High	13687
Lachnospiraceae	family	High	186803	Bacteroides eggerthii	species	High	28111
Anaerostipes	genus	High	207244	Helicobacter pylori	species	High	210
Blautia	genus	High	572511	Holdemania filiformis	species	High	61171
Collinsella	genus	High	102106	Ligilactobacillus murinus	species	High	1622
Dorea	genus	High	189330	Parabacteroides distasonis	species	High	823
Megasphaera	genus	High	906	Parabacteroides johnsonii	species	High	387661
Phyllobacterium	genus	High	28100	Ruminococcus bicirculans	species	Low	1160721

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.

arabinogalactan (prebiotic) 21 gram/day

inulin (prebiotic) 32 gram/day

resistant starch

Retail Probiotics

Over 260 retail probiotics were evaluated with the following deemed beneficial with no known adverse risks.

Swiss BioEnergetics / Full Spectrum Probiotic Defence
blackmores (au) / probiotics + adults daily (90 capsules)
nature's way (au) / restore probiotic daily health 90s
jarrow formulas / bifidus balance® + fos
nature's way (au) / restore probiotic bowel & colon health 30s
Bromatech (IT) / Lautoselle
naturopathica (au) / gastrohealth fibrepro
blackmore (au) / probiotics+ eczema relief
Thryve Inside/ L.Reu,Rham,Casi; B.Lactis
naturopathica (au) / gastrohealth probiotic dairy free 50 billion
Physician Choice /60 Billion Probiotics
naturopathica (au) / gastrohealth probiotic dairy free 20 bcfu
Bromatech (IT) / Serobiome
blackmores (au) / probiotics+ immune defence
blackmore (au) / probiotics+ bowel support
nature's way (au) / restore probiotic 30 billion 30s
blackmore (au) / probiotics+ daily health

Note: Some of these are only available regionally – search the web for sources.

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.

Arbutin (polyphenol)	N-Acetyl Cysteine (NAC),
bacillus coagulans (probiotics)	quercetin, resveratrol
Baking Soda, Sodium Bicarbonate	retinoic acid, (Vitamin A derivative)
Caffeine	smoking
cannabinoids	syzygium aromaticum (clove)
carboxymethyl cellulose (prebiotic)	tea
diosmin, (polyphenol)	thyme (thymol, thyme oil)
glycyrrhizic acid (licorice)	Tributyrin
Hesperidin (polyphenol)	Vitamin B1, thiamine hydrochloride
lactobacillus rhamnosus	Vitamin B-12
gg lactobacillus, rhamnosus, propionibacterium freudenreichii, bif	vitamin B3, niacin
(probiotics)	Vitamin B6, pyridoxine hydrochloride
lactobacillus rhamnosus	vitamin B7, biotin
gg lactobacillus, rhamnosus, propionibacterium	Vitamin B9, folic acid
freudenreichii, bifidobacterium breve (probiotics)	Vitamin C (ascorbic acid)
linseed (flaxseed)	
luteolin (flavonoid)	
melatonin supplement	

Sample of Literature Used

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

[Gut microbiota in alopecia areata.](#)

Postepy dermatologii i alergologii , Volume: 39 Issue: 6 2022 Dec

Authors Brzychcy K,Drózd I,Skoczylas S,Ploszaj T,Sobolewska-Sztychny D,Skibinska M,Narbutt J,Lesiak A

[How Our Microbiome Influences the Pathogenesis of Alopecia Areata.](#)

Genes , Volume: 13 Issue: 10 2022 Oct 14

Authors Sánchez-Pellicer P,Navarro-Moratalla L,Núñez-Delegido E,Agüera-Santos J,Navarro-López V

[Understanding the Gut Microbiota in Pediatric Patients with Alopecia Areata and their Siblings: A Pilot Study.](#)

JID innovations : skin science from molecules to population health , Volume: 1 Issue: 4 2021 Dec

Authors Rangu S,Lee JJ,Hu W,Bittinger K,Castelo-Soccio L

[Analysis of the gut microbiota in alopecia areata: identification of bacterial biomarkers.](#)

Journal of the European Academy of Dermatology and Venereology : JEADV , Volume: 34 Issue: 2 2020 Feb

Authors Moreno-Arrones OM,Serrano-Villar S,Perez-Brocal V,Saceda-Corralo D,Morales-Raya C,Rodriguez-Barata R,Moya A,Jaen-Olasolo P,Vano-Galvan S

[Intestinal Dysbiosis and Biotin Deprivation Induce Alopecia through Overgrowth of Lactobacillus murinus in Mice.](#)

Cell reports , Volume: 20 Issue: 7 2017 Aug 15

Authors Hayashi A,Mikami Y,Miyamoto K,Kamada N,Sato T,Mizuno S,Naganuma M,Teratani T,Aoki R,Fukuda S,Suda W,Hattori M,Amagai M,Ohyama M,Kanai T

[Gut microbiota-derived metabolites mediate the neuroprotective effect of melatonin in cognitive impairment induced by sleep deprivation.](#)

Microbiome , Volume: 11 Issue: 1 2023 Jan 31

Authors Wang X,Wang Z,Cao J,Dong Y,Chen Y

[Licorice extract ameliorates hyperglycemia through reshaping gut microbiota structure and inhibiting TLR4/NF- \$\kappa\$ B signaling pathway in type 2 diabetic mice.](#)

Food research international (Ottawa, Ont.) , Volume: 153 2022 Mar

Authors Zhang Y,Xu Y,Zhang L,Chen Y,Wu T,Liu R,Sui W,Zhu Q,Zhang M

[Aberrant Gut Microbiome Contributes to Intestinal Oxidative Stress, Barrier Dysfunction, Inflammation and Systemic Autoimmune Responses in MRL/lpr Mice.](#)

Frontiers in immunology , Volume: 12 2021

Authors Wang H,Wang G,Banerjee N,Liang Y,Du X,Boor PJ,Hoffman KL,Khan MF

[Implications of Tributyrin on Gut Microbiota Shifts Related to Performances of Weaning Piglets.](#)

Microorganisms , Volume: 9 Issue: 3 2021 Mar 12

Authors Miragoli F,Patrone V,Prandini A,Sigolo S,Dell'Anno M,Rossi L,Senizza A,Morelli L,Callegari ML

[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

[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

[The *in vitro* Effect of Fibers With Different Degrees of Polymerization on Human Gut Bacteria.](#)

Frontiers in microbiology , Volume: 11 2020

Authors Chen M,Fan B,Liu S,Imam KMSU,Xie Y,Wen B,Xin F

[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

[Bacillus coagulans R11 maintained intestinal villus health and decreased intestinal injury in lead-exposed mice by regulating the intestinal microbiota and influenced the function of faecal microRNAs.](#)

Environmental pollution (Barking, Essex : 1987) , Volume: 255 Issue: Pt 2 2019 Sep 13

Authors Xing SC,Huang CB,Mi JD,Wu YB,Liao XD

[Stability of vitamin B12 with the protection of whey proteins and their effects on the gut microbiome.](#)

Food chemistry , Volume: 276 2019 Mar 15

Authors Wang H,Shou Y,Zhu X,Xu Y,Shi L,Xiang S,Feng X,Han J

[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

[Antimicrobial activity of spices essential oils and its effectiveness on mature biofilms of human pathogens.](#)

Natural product research , 2018 Oct 13

Authors Condò C,Anacarlo I,Sabia C,Iseppi R,Anfelli I,Forti L,de Niederhäusern S,Bondi M,Messi P

[Acute Exposure to Commonly Ingested Emulsifiers Alters Intestinal Mucus Structure and Transport Properties.](#)

Scientific reports , Volume: 8 Issue: 1 2018 Jul 3

Authors Lock JY,Carlson TL,Wang CM,Chen A,Carrier RL

[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

[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

[A combination of quercetin and resveratrol reduces obesity in high-fat diet-fed rats by modulation of gut microbiota.](#)

Food & function , Volume: 8 Issue: 12 2017 Dec 13

Authors Zhao L,Zhang Q,Ma W,Tian F,Shen H,Zhou M

[Blockade of CB1 cannabinoid receptor alters gut microbiota and attenuates inflammation and diet-induced obesity.](#)

Scientific reports , Volume: 7 Issue: 1 2017 Nov 15

Authors Mehrpouya-Bahrami P,Chitralla KN,Ganewatta MS,Tang C,Murphy EA,Enos RT,Velazquez KT,McCellan J,Nagarkatti M,Nagarkatti P

[Illumina Sequencing Approach to Characterize Thiamine Metabolism Related Bacteria and the Impacts of Thiamine Supplementation on Ruminant Microbiota in Dairy Cows Fed High-Grain Diets.](#)

Frontiers in microbiology , Volume: 8 2017

Authors Pan X,Xue F,Nan X,Tang Z,Wang K,Beckers Y,Jiang L,Xiong B

[Decaffeinated green and black tea polyphenols decrease weight gain and alter microbiome populations and function in diet-induced obese mice.](#)

European journal of nutrition , 2017 Sep 30

Authors Henning SM,Yang J,Hsu M,Lee RP,Grojean EM,Ly A,Tseng CH,Heber D,Li Z

[Microbiota, metabolome, and immune alterations in obese mice fed a high-fat diet containing type 2 resistant starch.](#)

Molecular nutrition & food research , Volume: 61 Issue: 11 2017 Nov

Authors Barouei J,Bendiks Z,Martinic A,Mishchuk D,Heeney D,Hsieh YH,Kieffer D,Zaragoza J,Martin R,Slupsky C,Marco ML

[Monitoring *in vitro* antibacterial efficacy of 26 Indian spices against multidrug resistant urinary tract infecting bacteria.](#)

Integrative medicine research , Volume: 3 Issue: 3 2014 Sep

Authors Rath S,Padhy RN

[The effects of micronutrient deficiencies on bacterial species from the human gut microbiota.](#)

Science translational medicine , Volume: 9 Issue: 390 2017 May 17

Authors Hibberd MC,Wu M,Rodionov DA,Li X,Cheng J,Griffin NW,Barratt MJ,Giannone RJ,Hettich RL,Osterman AL,Gordon JI

[Prebiotic inulin-type fructans induce specific changes in the human gut microbiota.](#)

Gut , Volume: 66 Issue: 11 2017 Nov

Authors Vandeputte D,Falony G,Vieira-Silva S,Wang J,Sailer M,Theis S,Verbeke K,Raes J

[Efficacy and role of inulin in mitigation of enteric sulfur-containing odor in pigs.](#)

Journal of the science of food and agriculture , Volume: 97 Issue: 8 2017 Jun

Authors Deng YF,Liu YY,Zhang YT,Wang Y,Liang JB,Tufarelli V,Laudadio V,Liao XD

[In vitro effects of sodium bicarbonate buffer on rumen fermentation, levels of lipopolysaccharide and biogenic amine, and composition of rumen microbiota.](#)

Journal of the science of food and agriculture , Volume: 97 Issue: 4 2017 Mar

Authors Mao S,Huo W,Liu J,Zhang R,Zhu W

[In vitro bactericidal activity of promising nutraceuticals for targeting multidrug resistant *Pseudomonas aeruginosa*.](#)

Nutrition (Burbank, Los Angeles County, Calif.) , Volume: 32 Issue: 7-8 2016 Jul-Aug

Authors Chakotiya AS,Chawla R,Thakur P,Tanwar A,Narula A,Grover SS,Goel R,Arora R,Sharma RK

[Manipulation of the gut microbiota using resistant starch is associated with protection against colitis-associated colorectal](#)

[cancer in rats.](#)

Carcinogenesis , Volume: 37 Issue: 4 2016 Apr

Authors Hu Y,Le Leu RK,Christophersen CT,Somashekar R,Conlon MA,Meng XQ,Winter JM,Woodman RJ,McKinnon R,Young GP

[The effect of dietary resistant starch type 2 on the microbiota and markers of gut inflammation in rural Malawi children.](#)

Microbiome , Volume: 3 2015 Sep 3

Authors Ordiz MI,May TD,Mihindukulasuriya K,Martin J,Crowley J,Tarr PI,Ryan K,Mortimer E,Gopalsamy G,Maleta K,Mitreva M,Young G,Manary MJ

[Antimicrobial Impacts of Essential Oils on Food Borne-Pathogens.](#)

Recent patents on food, nutrition & agriculture , Volume: 7 Issue: 1 2015

Authors Ozogul Y,Kuley E,Ucar Y,Ozogul F

[Diets high in resistant starch and arabinoxylan modulate digestion processes and SCFA pool size in the large intestine and faecal microbial composition in pigs.](#)

The British journal of nutrition , Volume: 112 Issue: 11 2014 Dec 14

Authors Nielsen TS,Lærke HN,Theil PK,Sørensen JF,Saarinen M,Forssten S,Knudsen KE

[Smoking cessation alters intestinal microbiota: insights from quantitative investigations on human fecal samples using FISH.](#)

Inflammatory bowel diseases , Volume: 20 Issue: 9 2014 Sep

Authors Biedermann L,Brüllsauer K,Zeitl J,Frei P,Scharl M,Vavricka SR,Fried M,Loessner MJ,Rogler G,Schuppler M

[RNA-stable-isotope probing shows utilization of carbon from inulin by specific bacterial populations in the rat large bowel.](#)

Applied and environmental microbiology , Volume: 80 Issue: 7 2014 Apr

Authors Tannock GW,Lawley B,Munro K,Sims IM,Lee J,Butts CA,Roy N

[Arabinoxylans and inulin differentially modulate the mucosal and luminal gut microbiota and mucin-degradation in humanized rats.](#)

Environmental microbiology , Volume: 13 Issue: 10 2011 Oct

Authors Van den Abbeele P,Gérard P,Rabot S,Bruneau A,El Aidy S,Derrien M,Kleerebezem M,Zoetendal EG,Smidt H,Verstraete W,Van de Wiele T,Possemiers S

[Antibacterial activity in spices and local medicinal plants against clinical isolates of Karachi, Pakistan.](#)

Pharmaceutical biology , Volume: 49 Issue: 8 2011 Aug

Authors Ali NH,Faizi S,Kazmi SU

[Effect of a multispecies probiotic supplement on quantity of irritable bowel syndrome-related intestinal microbial phylotypes.](#)

BMC gastroenterology , Volume: 10 2010 Sep 19

Authors Lyra A,Krogius-Kurikka L,Nikkilä J,Malinen E,Kajander K,Kurikka K,Korpela R,Palva A

[Biodegradable gelatin-chitosan films incorporated with essential oils as antimicrobial agents for fish preservation.](#)

Food microbiology , Volume: 27 Issue: 7 2010 Oct

Authors Gómez-Estaca J,López de Lacey A,López-Caballero ME,Gómez-Guillén MC,Montero P

[Dominant and diet-responsive groups of bacteria within the human colonic microbiota.](#)

The ISME journal , Volume: 5 Issue: 2 2011 Feb

Authors Walker AW,Ince J,Duncan SH,Webster LM,Holtrop G,Ze X,Brown D,Stares MD,Scott P,Bergerat A,Louis P,McIntosh F,Johnstone AM,Lobley GE,Parkhill J,Flint HJ

[The antimicrobial efficacy of plant essential oil combinations and interactions with food ingredients.](#)

International journal of food microbiology , Volume: 124 Issue: 1 2008 May 10

Authors Gutierrez J,Barry-Ryan C,Bourke P

[Vapor-phase activities of cinnamon, thyme, and oregano essential oils and key constituents against foodborne microorganisms.](#)

Journal of agricultural and food chemistry , Volume: 55 Issue: 11 2007 May 30

Authors López P,Sánchez C,Batlle R,Nerín C

[Antimicrobial activity of essential oils and other plant extracts.](#)

Journal of applied microbiology , Volume: 86 Issue: 6 1999 Jun

Authors Hammer KA,Carson CF,Riley TV

[The effect of inulin and/or wheat bran in the diet during early life on intestinal health of broiler chicks](#)

21st European Symposium on Poultry Nutrition (ESPN 2017) , Volume: Unpublished conference/Abstract Issue: Jan 2018

Authors Li, Bing

[Curated database of commensal, symbiotic and pathogenic microbiota](#)

Generative Bioinformatics , Volume: Issue: 2014 Jun

Authors D'Adamo Peter

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