

# Kyoto Encyclopedia of Genes and Genomes derived Suggestions

## Review Overview

These suggestions 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 almost 2 million facts with backward chaining to sources of information. The typical sources are studies published on the US National Library of Medicine. Note: That many of the bacteria species used are *NOT* reported on many tests.

These are suggestions that are predicted to independently Decreasing Methane | CH4 CH4 by impacting the bacteria listed on [KEGG: Kyoto Encyclopedia of Genes and Genomes](#). 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

This is an experimental feature – manual validations is recommended. For background, see this [post](#)

There is a separate report for probiotics. That report use the enzymes in probiotic species.

## Analysis Provided by Microbiome Prescription

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## Bacteria being targeted by suggestions.

These bacteria levels were deemed atypical

Bacteria Name	Rank	Shift	Taxonomy ID	Bacteria Name	Rank	Shift	Taxonomy ID
Methylococcus capsulatus	species		414	Nitrosococcus watsonii	species		473531
Methylomonas methanica	species		421	Mycobacterium dioxanotrophicus	species		482462
Methylosinus trichosporium	species		426	Candidatus Methyloacidiphilum	species		511746
Methylovulum microbium buryatense	species		95641	infemorum	species		553981
Methylomonas sp. LW13	species		107637	Candidatus Nitrosacidococcus tergens	species		671143
Methylocystis heyeri	species		391905	Candidatus Methylomirabilis	species		702114
Methylocystis bryophila	species		655015	oxygeniifera	species		1173101
Methylalcaldum marinum	species		1432792	Methylomonas koyamae	species		1288494
Methylomagnum ishizawai	species		1760988	Methylomonas paludis	species		1295382
Candidatus Methylospira mobilis	species		1808979	Nitrosospira lacus	species		1444684
Methylocystis parvus	species		134	Methylogaea oryzae	species		1538553
Nitrosomonas europaea	species		915	Nitrosomonas stercoris	species		1630141
Nitrosomonas eutropha	species		916	Methylomonas denitrificans	species		1704499
Nitrosococcus oceani	species		1229	Candidatus Nitrosoglobus terrae	species		1715989
Nitrosospira multififormis	species		1231	Methylovulum psychrotolerans	species		1727196
Mycobacterium chubuense	species		1800	Candidatus Nitrospira inopinata	species		1814290
Mycobacterium rhodesiae	species		36814	Methylomonas sp. DH-1	species		2027405
Nitrosomonas communis	species		44574	Nitrosococcus wardiae	species		2055889
Nitrosomonas ureae	species		44577	Azoarcus sp. DD4	species		2217913
Hydrogenophaga pseudoflava	species		47421	Nocardia tengchongensis	species		57975
Nitrosococcus halophilus	species		133539	Burkholderia sp. JP2-270	species		294
Mycobacterium holsaticum	species		152142	Burkholderia thailandensis	species		329
Nitrosomonas sp. AL212	species		153948	Pseudomonas fluorescens	species		316
Methylocystis rosea	species		173366	Ralstonia pickettii	species		621
Methylocystis sp. SC2	species		187303	Stutzerimonas stutzeri	species		876
Methylocella silvestris	species		199596	Shigella boydii	species		1501
Methylocella tundrae	species		227605	Desulfovibrio desulfuricans	species		2743
Nitrosomonas sp. Is79A3	species		261292	Clostridium pasteurianum	species		37919
Methylovulum microbium alcaliphilum	species		271065	Marinobacter nauticus	species		93220
Methyloacidiphilum kamchatkense	species		431057	Rhodococcus opacus	species		34073
				Pandoraea pnomenusa	species		
				Variovorax paradoxus	species		

## 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.

The recommended process to obtain a *persistent shift* of the microbiome is:

Generate 4 lists from the suggestions with nothing repeated on another list

Emphasize one list each week

After 8 weeks (2 cycles), retest the microbiome to obtains the next set of *course corrections*

This approach allows the microbiome to stablize towards normal.

Pick only as many suggestions that suits you; there is no need to do all of them. Suggestions are based on your specific bacteria and not marketing concepts such as 'healthy choices'.

Ayurvedic herbal formula {Triphala} 9000 mg/day

Cinnamomum zeylanicum {Ceylon Cinnamon} 6 gram/day

Coriandrum sativum {Coriander}

Curcuma longa {Turmeric} 3000 mg/day

Diferuloylmethane {Curcumin} 3 gram/day

foeniculum vulgare,fennel

fruit

fruit/legume fibre

Lactocaseibacillus casei {L. casei} 48 BCFU/day

Lactobacillus plantarum {L. plantarum} 60 BCFU/day

Nigella sativa {black cumin} 1000 mg/day

origanum vulgare {oregano}

rosmarinus officinalis {rosemary}

syzygium aromaticum {clove}

Thymus vulgaris {thyme}

yogurt

Zingiber officinale Roscoe {ginger}

## Retail Probiotics

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

theramedix / probiotic  
 newrhythm / probiotics 20 stains  
 Lake Avenue Nutrition / Probiotics 10 Strain Blend  
 Windcove Probiotics / Ecologic®825  
 ASEA VIA / BIOME  
 fürstenmed / lacto-bifido  
 jarrow formula / jarro-dophilus original  
 HLH BIOPHARMA(DE) / LACTOBACT® PREMIUM  
 Krauterhaus / Lactopro  
 udo's choice /super 8 gold  
 Advanced Bio-Cultures / Advance Multi Strain Probiotics  
 elixa / probiotic  
 bioray / cytoflora  
 renew life / ultimate flora  
 up4 / ultra  
 Bioflora (Mx) / BIOFLORA / 30 BILLION 10 strains  
 bioglan bio (au) / happy probiotic 100  
 Global Healing Center / FloraTrex  
 SuperSmart / Lactoxira  
 douglas laboratories / multi probiotic 40 billion  
 visbiome  
 garden of life / primal defense  
 renew life men's probiotic - ultimate  
 SuperSmart / Full Spectrum Probiotic Formula  
 7 AM Ultra Probiotics  
 quantum wellness / restora flora  
 vita miracle / ultra-30 probiotics  
 jarrow formula / ideal bowel support® lp299v®  
 HLH BIOPHARMA(DE) / LACTOBACT® 60PLUS  
 Next Generation  
 Northwest Natural Products / PB8  
 jarrow formulas / jarro-dophilus eps  
 SuperSmart / Probio Forte  
 seed / female version  
 jarrow formulas / jarro-dophilus® ultra  
 Physician Choice /60 Billion Probiotics  
 1 md / complete probiotics platinum  
 nature's bounty / probioti 10  
 SuperSmart / Derma Relief  
 fairvital / microflora basic  
 MegaFood / MegaFlora  
 Invivo / Bio.Me Femme UT  
 OMNI-BIOTIC®/ TRAVEL  
 organic 3 / primal gut  
 Physis / Advance Probiotics  
 Dr. Mercola / Complete Probiotics  
 Garden of Life / Dr. Formulated Once Daily Women's  
 vinco / probiotic eight 65  
 hyperbiotics / pro-15  
 nature's way (au) / restore probiotic 100 billion  
 bioglan bio (au) / happy probiotic 50  
 HLH BIOPHARMA(DE) / LACTOBACT® LDL-CONTROL  
 Immune Defense Daily Chewable Probiotic  
 seed / male version

solaray / microbiome probiotic colon formula  
Maple Life Science™ / Lactobacillus plantarum  
lifted naturals / mood boosting probiotic  
NOW FOODS / Clinical GI Probiotic  
Purica Probiotic Cardio  
ecology\_allergycare  
Floradapt Cardio  
HLH BIOPHARMA(DE) / LACTOBACT ® OMNI FOS  
PharmExtracta (IT) / INatal Sachets  
NaturalPharma / Profit Probiotics  
Bio Schwartz / Advance Strength Probiotics (40 BCFU)  
UltraFlora® Intensive Care  
Wakunaga / Max Probiotic  
UltraFlora® Immune Booster  
OMNI-BIOTIC®/ 10 AAD  
up4 /women's  
young living/life 9  
Bromatech (IT) / Adomelle  
goodbelly drink  
Bulk Probiotics / L. Casei Probiotic Powder (Candida Support)  
Ombre / Heart Health  
Symprove™  
custom probiotics / six strain probiotic powder  
Bromatech (IT) / Citogenex  
ImmuneBiotech Medical Sweden AB / GutMagnific®  
naturopathica (au) / gastrohealth probiotic dairy free 20 bcfu  
biospec / probiotic-5  
HMF Metabolic  
CustomProbiotics.com / L. Plantarum Probiotic Powder  
Ombre / Healthy Gut  
just for tummies / live bacteria  
organic 3 / gutpro  
Sash Vitality /Bio-Cultures Probiotics for Adults  
SuperSmart / Vaginal Health  
naturopathica (au) / gastrohealth probiotic dairy free 50 billion  
Probiotic 10 Billion Active Cells Daily Maintenance  
Seeking Health / Probiota HistaminX  
Thryve Inside/ L.Reu,Rham,Casi; B.Lactis  
klair labs / target gb-x  
ferring / vsl#3  
Resbiotic/resB® Lung Support  
Bulk Probiotics / L. Plantarum Probiotic Powder  
spain (es) / I3.1  
Ombre / Mood Enhancer  
up4 / adult  
nature's way (au) /restore probiotic bowel & colon health 30s  
Realdose  
Nature's Lab Intensive GI  
ProbioMax® Daily DF  
SuperSmart / Lactobacillus Plantarum Postbiotic (Pasturerized)  
Floradapt Gut Comfort  
optibac / for your cholesterol  
Purica Probiotic Intensive GI  
Ombre / Ultimate Immunity  
zint nutrition / probiotic collagen +  
Smidge /Sensitive Probiotic  
LiveWell Nutrition / Pro-45  
Metabolics / Lactobacillus Plantarum Powder

Nature's Lab Cardio  
Jetson (US) / Immunity Probiotics  
spain (es) / vivomixx  
SuperSmart / Candalb  
custom probiotics / four strain lactobacilli  
naturopathica (au) / gastrohealth probiotic ultimate daily care 100billion  
CustomProbiotics.com / L. Casei Probiotic Powder  
Bromatech(IT) / FEMELLE  
probiotic pur (de) / realdose nutrition  
Wholesome Wellness / Raw Probiotic  
bio-k+

**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.

Cola aspartame {Diet Cola}

Ferrum {Iron Supplements}

N-L-a-aspartyl-L-phenylalanine methyl ester {aspartame}

Ulmus rubra {slippery elm}

## Sample of Literature Used

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

The potential of cell-free supernatants from *Lactocaseibacillus paracasei* B1 and *Lactiplantibacillus plantarum* O24 as antioxidant and antimicrobial agents.

**Food chemistry** , Volume: 492 Issue: Pt 2 2025 Jul 3

Authors Keska P,Zielinska D,Karbowiak M,Kruk M,Lisiecka U,Stadnik J

Impact of the Probiotic on the Modulation of Vaginal Bacterial and Fungal Microbiota in HPV-Positive Women.

**Molecular nutrition & food research** , 2025 Jun 11

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Impact of Iron Deficiency on the Growth and Bioelectrical Profile of Different Gut Bacteria.

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Synergistic Biocidal Effects of Curcumin, Chitosan, and Nickel Titanate-Based Nanohybrids for Enhanced Antibacterial and Anticancer Therapies.

**ACS applied bio materials** , 2025 May 14

Authors Jeyasingh E,Panneerselvam HM,Chandrasekaran K,Moorthy S

Thyme oil-loaded chitosan microparticles: an antibacterial approach against pathogenic bacteria.

**3 Biotech** , Volume: 15 Issue: 5 2025 May

Authors Thakur A,Sharma K

Electrostatically assembled maghemite nanoparticles-Lactobacillus plantarum: A novel hybrid for enhanced antioxidant, antimicrobial, and antibiofilm efficacy.

**Bioresource technology** , 2025 Apr 12

Authors Shingade JA,Padalkar NS,Shin JH,Kim YH,Park TJ,Park JP,Patil AR

The Development and Comparative Evaluation of Rosemary Hydroalcoholic Macerate-Based Dermatocosmetic Preparations: A Study on Antioxidant, Antimicrobial, and Anti-Inflammatory Properties.

**Gels (Basel, Switzerland)** , Volume: 11 Issue: 3 2025 Feb 20

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Effect of ozonation on the phytochemicals of black seed oil and its anti-microbial, anti-oxidant, anti-inflammatory, and anti-neoplastic activities in vitro.

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Authors Al-Rajhi AMH,Abdelghany TM,Almuhayawi MS,Alruhaili MH,Saddiq AA,Baghdadi AM,Al Jaouni SK,Albasri HM,Waznah MS,Alraddadi FA,Selim S

Zingiber officinale Uncovered: Integrating Experimental and Computational Approaches to Antibacterial and Phytochemical Profiling.

**Pharmaceuticals (Basel, Switzerland)** , Volume: 17 Issue: 11 2024 Nov 19

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Antimicrobial Activity of *Origanum vulgare* Essential Oil against *Staphylococcus aureus* and *Escherichia coli*.

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Characterization of Exopolysaccharides from *Lactiplantibacillus plantarum* PC715 and Their Antibiofilm Activity Against *Hafnia alvei*.

**Microorganisms** , Volume: 12 Issue: 11 2024 Nov 3

Authors Tan X,Ma B,Wang X,Cui F,Li X,Li J

Probiotic-Loaded Bacterial Cellulose as an Alternative to Combat Carbapenem-Resistant Bacterial Infections.

**Antibiotics (Basel, Switzerland)** , Volume: 13 Issue: 11 2024 Oct 25

Authors Gutiérrez-Fernández J,Cerezo-Collado L,Garcés V,Alarcón-Guijo P,Delgado-López JM,Dominguez-Vera JM

Investigating antibacterial and anti-inflammatory properties of synthetic curcuminoids.

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Dipeptides from *Lactiplantibacillus plantarum* limit *Pseudomonas aeruginosa* pathogenesis.



**Journal of applied microbiology** , Volume: 135 Issue: 11 2024 Nov 4

Authors Narasimulu J,Baburajan N,Saravanan TS,Raorane CJ,Vaidyanathan VK,Ravichandran V,Rajasekharan SK

Bone Healing via Carvacrol and Curcumin Nanoparticle on 3D Printed Scaffolds.

Small (Weinheim an der Bergstrasse, Germany) , 2024 Oct 27

Authors Dahiya A,Chaudhari VS,Bose S

Oregano essential oil and Bacillus subtilis role in enhancing broiler's growth, stress indicators, intestinal integrity, and gene expression under high stocking density.

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Characterization of thyme essential oil microcapsules and potato starch/pectin composite films and their impact on the quality of chilled mutton.

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Biocompatible Poly( $\epsilon$ -Caprolactone) Nanocapsules Enhance the Bioavailability, Antibacterial, and Immunomodulatory Activities of Curcumin.

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Candidate-Probiotic Lactobacilli and Their Postbiotics as Health-Benefit Promoters.

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Isolation and Identification of Human Gut Bacteria Capable of Converting Curcumin to Its Hydrogenated Metabolites.

**Journal of agricultural and food chemistry** , Volume: 72 Issue: 37 2024 Sep 18

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Cytotoxicity assessment and antimicrobial effects of cell-free supernatants from probiotic lactic acid bacteria and yeast against multi-drug resistant Escherichia coli.

**Letters in applied microbiology** , Volume: 77 Issue: 9 2024 Sep 2

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Burn Wound Healing Activity of Hydroxyethylcellulose Gels with Different Water Extracts Obtained from Various Medicinal Plants in Pseudomonas aeruginosa-Infected Rabbits.

**International journal of molecular sciences** , Volume: 25 Issue: 16 2024 Aug 18

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Unlocking the therapeutic potential of Nigella sativa extract: phytochemical analysis and revealing antimicrobial and antioxidant marvels.

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Investigating the physicochemical, antimicrobial and antioxidant properties of chitosan film containing zero-valent iron nanoparticles and oregano essence.

**Biopolymers** , Volume: 115 Issue: 6 2024 Nov

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Multifunctional chitosan-cross linked- curcumin-tannic acid biocomposites disrupt quorum sensing and biofilm formation in pathogenic bacteria.

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Chemical Composition of Turmeric (Curcuma longa L.) Ethanol Extract and Its Antimicrobial Activities and Free Radical Scavenging Capacities.

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Ginger Polyphenols Reverse Molecular Signature of Amygdala Neuroimmune Signaling and Modulate Microbiome in Male Rats with Neuropathic Pain: Evidence for Microbiota-Gut-Brain Axis.

**Antioxidants (Basel, Switzerland) , Volume: 13 Issue: 5 2024 Apr 23**

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Determination of total phenolics, flavonoids, and testing of antioxidant and antibacterial activities of red ginger (Zingiber officinale var. Rubrum).

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Inhibitory effect of some probiotic strains and essential oils on the growth of some foodborne pathogens.

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Adjunctive efficacy of Bifidobacterium animalis subsp. lactis XLTG11 for functional constipation in children.

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Thymus Vulgaris Oil Nanoemulsion: Synthesis, Characterization, Antimicrobial and Anticancer Activities.

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Antitumor, Antioxidant, and Antimicrobial Properties and Anticancer Potential of Novel Environmentally Friendly Amide-Modified Gallic Acid Derivatives.

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Effect of ginger essential oil and 6-gingerol on a multispecies biofilm of *Listeria monocytogenes*, *Salmonella Typhimurium*, and *Pseudomonas aeruginosa*.

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