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

A Microbiome Analysis Company

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Our Facebook Discussion Page

Bacteria being targeted by suggestions.

These bacteria levels were deemed atypical

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

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'.

Cinnamomum zeylanicum {Ceylon Cinnamon} 6 gram/day
Coriandrum sativum {Coriander}
Diferuloylmethane {Curcumin} 3 gram/day
foeniculum vulgare,fennel
Lacticaseibacillus 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}
Zingiber officinale Roscoe {ginger}

Retail Probiotics

Over 260 retail probiotics were evaluted with the following deem beneficial with no known adverse risks.

- theramedix / probiotic
- newrhythm / probiotics 20 stains
- Lake Avenue Nutrition / Probiotics 10 Strain Blend
- Winclove 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 / mycrobiome 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
klaire labs / target gb-x
ferring / vsl#3
Resbiotic /resB® Lung Support
Bulk Probiotics / L. Plantarum Probiotic Powder
spain (es) / l3.1
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 signigicant 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.

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.

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
Authors Sahlabgi A,Lupuliasa D,Stanciu G,Lup?or S,Vlaia LL,Rotariu R,Predescu NC,Radulescu C,Olteanu RL,Stanescu SG,Hîncu L,Mititelu M

Effect of ozonation on the phytochemicals of black seed oil and its anti-microbial, anti-oxidant, anti-inflammatory, and anti-neoplastic activities in vitro.
Scientific reports , Volume: 14 Issue: 1 2024 Dec 11
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
Authors Sulieman AME,Ibrahim SM,Alshammari M,Abdulaziz F,Idriss H,Alanazi NAH,Abdallah EM,Siddiqui AJ,Shommo SAM,Jamal A,Badraoui R

Antimicrobial Activity of Origanum vulgare Essential Oil against Staphylococcus aureus and Escherichia coli.
Pharmaceuticals (Basel, Switzerland) , Volume: 17 Issue: 11 2024 Oct 25
Authors Tejada-Muñoz S,Cortez D,Rascón J,Chavez SG,Caetano AC,Díaz-Manchay RJ,Sandoval-Bances J,Huyhua-Gutierrez S,Gonzales L,Chenet SM,Tapia-Limonchi R

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.
Frontiers in medicine , Volume: 11 2024
Authors Veselá K,Kejík Z,Abramenko N,Kaplánek R,Jakubek M,Petrlova J

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.
Scientific reports , Volume: 14 Issue: 1 2024 Oct 25
Authors Elbaz AM,El-Sonousy NK,Arafa AS,Sallam MG,Ateya A,Abdelhady AY

Characterization of thyme essential oil microcapsules and potato starch/pectin composite films and their impact on the quality of chilled mutton.
Food chemistry , Volume: 464 Issue: Pt 2 2025 Feb 1
Authors Wang J,Li L,Li Y,Song Q,Hu Y,Wang Q,Lu S

Candidate-Probiotic Lactobacilli and Their Postbiotics as Health-Benefit Promoters.
Microorganisms , Volume: 12 Issue: 9 2024 Sep 19
Authors Dobreva L,Atanasova N,Donchev P,Krumova E,Abrashev R,Karakirova Y,Mladenova R,Tolchkov V,Ralchev N,Dishliyska V,Danova S

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
Authors Luo M,Wong S,Thanuphol P,Du H,Han Y,Lin M,Guo X,Bechtel TD,Gibbons JG,Xiao H

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
Authors Ozma MA,Ghotaslou R,Asgharzadeh M,Abbasi A,Rezaee MA,Kafil HS

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
Authors Demyashkin G,Sataieva T,Shevkoplyas L,Kuevda T,Ahrameeva M,Parshenkov M,Mimuni A,Pimkin G,Atiakshin D,Shchekin V,Shegay P,Kaprin A

Unlocking the therapeutic potential of Nigella sativa extract: phytochemical analysis and revealing antimicrobial and antioxidant marvels.
BMC complementary medicine and therapies , Volume: 24 Issue: 1 2024 Jul 12
Authors Rahman AU,Abdullah A,Faisal S,Mansour B,Yahya G

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
Authors Khodaparast FK,Pirsa S,Toupchi FM,Mohtarami F

Insights into the antioxidant, anti-inflammatory and anti-microbial potential of Nigella sativa essential oil against oral pathogens.
Scientific reports , Volume: 14 Issue: 1 2024 May 24
Authors Bhavikatti SK,Zainuddin SLA,Ramli RB,Nadaf SJ,Dandge PB,Khalate M,Karobari MI

Antimicrobial activity of Cinnamomum zeylanicum essential oil against colistin-resistant gram-negative bacteria.
International journal of environmental health research , 2024 May 2
Authors Ben Selma W,Ferjeni S,Farouk A,Marzouk M,Boukadida J

Inhibitory effect of some probiotic strains and essential oils on the growth of some foodborne pathogens.
Open veterinary journal , Volume: 14 Issue: 1 2024 Jan
Authors Fathy SS,Awad EI,Abd-El Aal SFA,Abdelfatah EN,Tahoun ABMB

Anti-Quorum Sensing and Anti-Biofilm Activity of Ginger (Zingiber officinale) Rhizomes against Multidrug-Resistant Clinical Isolates of Pseudomonas aeruginosa.
Avicenna journal of medical biotechnology , Volume: 16 Issue: 1 2024 Jan-Mar
Authors Sagar PK,Sharma P,Singh R

Synergistic antimicrobial interaction of plant essential oils and extracts against foodborne pathogens.
Food science & nutrition , Volume: 12 Issue: 2 2024 Feb
Authors Angane M,Swift S,Huang K,Perera J,Chen X,Butts CA,Quek SY

Antibacterial activity of plant-derived compounds and cream formulations against canine skin bacteria.
Veterinary research communications , 2024 Feb 7
Authors Strompfová V,Štempelová L,Wolaschka T

Effects of Metabolites of Lactobacillus casei on Expression and Neutralization of Shiga Toxin by Enterohemorrhagic Escherichia coli.
Probiotics and antimicrobial proteins , 2024 Jan 15
Authors Aditya A,Tabashsum Z,Martinez ZA,Biswas D

Molecular docking, molecular dynamics simulation, and MM/PBSA analysis of ginger phytocompounds as a potential inhibitor of AcrB for treating multidrug-resistant Klebsiella pneumoniae infections.
Journal of biomolecular structure & dynamics , 2024 Jan 2
Authors Sahoo M,Behera DU,Gaur M,Subudhi E

Chemoprofiling and antimicrobial activity of medicinal herbs used in the treatment of inflammatory bowel disease.
Cellular and molecular biology (Noisy-le-Grand, France) , Volume: 69 Issue: 13 2023 Dec 10
Authors Alshahrani A,Ali A,Abdelwahab SF

Spices as Sustainable Food Preservatives: A Comprehensive Review of Their Antimicrobial Potential.
Pharmaceuticals (Basel, Switzerland) , Volume: 16 Issue: 10 2023 Oct 12
Authors Sulieman AME,Abdallah EM,Alanazi NA,Ed-Dra A,Jamal A,Idriss H,Alshammari AS,Shommo SAM

Thymus Vulgaris Oil Nanoemulsion: Synthesis, Characterization, Antimicrobial and Anticancer Activities.
Molecules (Basel, Switzerland) , Volume: 28 Issue: 19 2023 Oct 2
Authors Doghish AS,Shehabeldine AM,El-Mahdy HA,Hassanin MMH,Al-Askar AA,Marey SA,AbdElgawad H,Hashem AH

Curcumin-sulfobutyl-ether beta cyclodextrin inclusion complex: preparation, spectral characterization, molecular modeling,

and antimicrobial activity.
Journal of biomolecular structure & dynamics , Volume: 42 Issue: 19 2024
Authors Sravani AB,Shenoy K M,Chandrika B,Kumar B H,Kini SG,Pai K SR,Lewis SA

Effect of ginger essential oil and 6-gingerol on a multispecies biofilm of Listeria monocytogenes, Salmonella Typhimurium, and Pseudomonas aeruginosa.
Brazilian journal of microbiology : [publication of the Brazilian Society for Microbiology] , Volume: 54 Issue: 4 2023 Dec
Authors Dos Santos EAR,Tadielo LE,Schmiedt JA,Possebon FS,Pereira MO,Pereira JG,Dos Santos Bersot L

Antibiotic-Potentiating Effect of Some Bioactive Natural Products against Planktonic Cells, Biofilms, and Virulence Factors of Pseudomonas aeruginosa.
BioMed research international , Volume: 2023 2023
Authors Chimi LY,Bisso BN,Njateng GSS,Dzoyem JP

Antibacterial activity of Thymus vulgaris (thyme) essential oil against strains of Pseudomonas aeruginosa, Klebsiella pneumoniae and Staphylococcus saprophyticus isolated from meat product.
Brazilian journal of biology = Revista brasleira de biologia , Volume: 83 2023
Authors Diniz AF,Santos B,Nóbrega LMMO,Santos VRL,Mariz WS,Cruz PSC,Nóbrega RO,Silva RL,Paula AFR,Santos JRDA,Pessôa HLF,Oliveira-Filho AA

Supplementation of ginger root extract into broiler chicken diet: effects on growth performance and immunocompetence.
Poultry science , Volume: 102 Issue: 10 2023 Jul 11
Authors Dosu G,Obanla TO,Zhang S,Sang S,Adetunji AO,Fahrenholz AC,Ferket PR,Nagabhushanam K,Fasina YO

Cell-free supernatant of probiotic bacteria exerted antibiofilm and antibacterial activities against Pseudomonas aeruginosa: A novel biotic therapy.
Frontiers in pharmacology , Volume: 14 2023
Authors Drumond MM,Tapia-Costa AP,Neumann E,Nunes ÁC,Barbosa JW,Kassuha DE,Mancha-Agresti P

Preparation and characterization of curcumin/chitosan conjugate as an efficient photodynamic antibacterial agent.
Carbohydrate polymers , Volume: 313 2023 Aug 1
Authors Zhao L,Ding X,Khan IM,Yue L,Zhang Y,Wang Z

Comparative study between two different morphological structures based on polylactic acid, nanocellulose and magnetite for co-delivery of flurouracil and curcumin.
International journal of biological macromolecules , Volume: 230 2023 Mar 1
Authors Bakr EA,Gaber M,Saad DR,Salahuddin N

Antibacterial Effect of 16 Essential Oils and Modulation of mex Efflux Pumps Gene Expression on Multidrug-Resistant Pseudomonas aeruginosa Clinical Isolates: Is Cinnamon a Good Fighter?
Antibiotics (Basel, Switzerland) , Volume: 12 Issue: 1 2023 Jan 12
Authors Co?eriu RL,Vintila C,Pribac M,Mare AD,Ciurea CN,Toganel RO,Cighir A,Simion A,Man A

Enhanced antimicrobial and antioxidant capacity of Thymus vulgaris, Lippia sidoides, and Cymbopogon citratus emulsions when combined with mannosylerythritol a lipid biosurfactant.
Food research international (Ottawa, Ont.) , Volume: 163 2023 Jan
Authors Zanotto AW,Kanemaru MYS,de Souza FG,Duarte MCT,de Andrade CJ,Pastore GM

Curcumin loaded gold nanoparticles-chitosan/sodium alginate nanocomposite for nanotheranostic applications.
Journal of biomaterials science. Polymer edition , Volume: 34 Issue: 7 2023 May
Authors Kolathupalayam Shanmugam B,Rajendran N,Arumugam K,Rangaraj S,Subramani K,Srinivasan S,Nayagam L,Aicher WK,Venkatachalam R

Investigation of Immunostimulatory Effects of Heat-Treated Lactiplantibacillus plantarum LM1004 and Its Underlying Molecular Mechanism.
Food science of animal resources , Volume: 42 Issue: 6 2022 Nov
Authors Bae WY,Jung WH,Shin SL,Kwon S,Sohn M,Kim TR

Curcumin encapsulation in self-assembled nanoparticles based on amphiphilic palmitic acid-grafted-quaternized chitosan with enhanced cytotoxic, antimicrobial and antioxidant properties.
International journal of biological macromolecules , Volume: 222 Issue: Pt B 2022 Dec 1
Authors Xie Y,Gong X,Jin Z,Xu W,Zhao K

Nigella sativa oil protects against cadmium-induced intestinal toxicity via promotion of anti-inflammatory mechanisms, mucin expression and microbiota integrity.
Avicenna journal of phytomedicine , Volume: 12 Issue: 3 2022 May-Jun
Authors Akinrinde AS,Adekanmbi AO,Olojo FO

Alginate hydrogel with enhanced curcumin release through HPβCD assisted host-guest interaction.
Biomaterials advances , Volume: 141 2022 Oct
Authors Mohammadi A,Sahabi M,Beigi-Boroujeni S,Abdolvand H,Makvandi P,Pournaghshband Isfahani A,Gharibi

R,Ebrahimibagha M

Synthesis, spectroscopic characterization, density functional theory study, antimicrobial and antioxidant activities of curcumin and alanine-curcumin Schiff base.

Journal of biomolecular structure & dynamics , Volume: 41 Issue: 16 2023 Sep-Oct

Authors Layaida H,Hellal A,Chafai N,Haddadi I,Imene K,Anis B,Mouna E,Bensouici C,Sobhi W,Attoui A,Lilia A

Effect of aqueous and organic solvent extraction on in-vitro antimicrobial activity of two varieties of fresh ginger (Zingiber officinale) and garlic (Allium sativum).

Heliyon , Volume: 8 Issue: 9 2022 Sep

Authors Akullo JO,Kiage B,Nakimbugwe D,Kinyuru J

Formation of cinnamon essential oil/xanthan gum/chitosan composite microcapsules basing on Pickering emulsions.

Colloid and polymer science , Volume: 300 Issue: 10 2022

Authors Li X,Gao Y,Li Y,Li Y,Liu H,Yang Z,Wu H,Hu Y

Antibacterial and antibiofilm activity of Lactobacillus strains secretome and extraction against Escherichia coli isolated from urinary tract infection.

Biotechnology reports (Amsterdam, Netherlands) , Volume: 36 2022 Dec

Authors Soltani N,Abbasi S,Baghaeifar S,Taheri E,Farhoudi Sefidan Jadid M,Emami P,Abolhasani K,Aslanshirzadeh F

Nano-Microemulsions of CaCO(3)-Encapsulated Curcumin Ester Derivatives With High Antioxidant and Antimicrobial Activities and pH Sensitivity.

Frontiers in veterinary science , Volume: 9 2022

Authors Wang L,Wang X,Guo Z,Xia Y,Geng M,Liu D,Zhang Z,Yang Y

Phytochemical Analysis and Antioxidant, Antibacterial, and Antifungal Effects of Essential Oil of Black Caraway (Nigella sativa L.) Seeds against Drug-Resistant Clinically Pathogenic Microorganisms.

BioMed research international , Volume: 2022 2022

Authors Zouirech O,Alyousef AA,El Barnossi A,El Moussaoui A,Bourhia M,Salamatullah AM,Ouahmane L,Giesy JP,Aboul-Soud MAM,Lyoussi B,Derwich E

In Vitro Analysis of Extracts of Plant Used in Mexican Traditional Medicine, Which Are Useful to Combat Clostridioides difficile Infection.

Pathogens (Basel, Switzerland) , Volume: 11 Issue: 7 2022 Jul 7

Authors Martínez-Alva JE,Espinoza-Simón E,Bayona-Pérez Y,Ruiz-Pérez NC,Ochoa SA,Xicohtencatl-Cortes J,Torres J,Romo-Castillo M

Antimicrobial Activity of Essential Oils Evaluated In Vitro against Escherichia coli and Staphylococcus aureus.

Antibiotics (Basel, Switzerland) , Volume: 11 Issue: 7 2022 Jul 20

Authors Galgano M,Capozza P,Pellegrini F,Cordisco M,Sposato A,Sblano S,Camero M,Lanave G,Fracchiolla G,Corrente M,Cirone F,Trotta A,Tempesta M,Buonavoglia D,Pratelli A

Antioxidant and Anti-Inflammatory Effects of Thyme (Thymus vulgaris L.) Essential Oils Prepared at Different Plant Phenophases on Pseudomonas aeruginosa LPS-Activated THP-1 Macrophages.

Antioxidants (Basel, Switzerland) , Volume: 11 Issue: 7 2022 Jul 6

Authors Pandur E,Micalizzi G,Mondello L,Horváth A,Sipos K,Horváth G

Binary Synergistic Combinations of Lavender and Fennel Essential Oils with Amoxicillin.

Planta medica , Volume: 89 Issue: 8 2023 Jul

Authors Karadag AE,Çaskurlu A,Demirci B,Demirci F

In-Vitro Antibacterial Activity of Curcumin-Loaded Nanofibers Based on Hyaluronic Acid against Multidrug-Resistant ESKAPE Pathogens.

Pharmaceutics , Volume: 14 Issue: 6 2022 May 31

Authors Snetkov P,Rogacheva E,Kremleva A,Morozkina S,Uspenskaya M,Kraeva L

Antibacterial and antibiofilm activities of some plant essential oils and synergistic effects of cinnamon essential oil with vancomycin against Clostridioides difficile: in vitro study.

Letters in applied microbiology , Volume: 75 Issue: 3 2022 Sep

Authors Tosun MN,Taylan G,Demirel Zorba NN

Changes in Gut Microbiota by the Lactobacillus casei Anchoring the K88 Fimbrial Protein Prevented Newborn Piglets From Clinical Diarrhea.

Frontiers in cellular and infection microbiology , Volume: 12 2022

Authors Qin D,Bai Y,Li Y,Huang Y,Li L,Wang G,Qu Y,Wang J,Yu LY,Hou X

In vitro evaluation of probiotic properties of lactic acid bacteria isolated from the vagina of yak (Bos grunniens).

PeerJ , Volume: 10 2022

Authors Zhang Q,Pan Y,Wang M,Sun L,Xi Y,Li M,Zeng Q

Lacticaseibacillus casei Strain T21 Attenuates Clostridioides difficile Infection in a Murine Model Through Reduction of Inflammation and Gut Dysbiosis With Decreased Toxin Lethality and Enhanced Mucin Production.

Frontiers in microbiology , Volume: 12 2021
Authors Panpetch W,Phuengmaung P,Cheibchalard T,Somboonna N,Leelahavanichkul A,Tumwasorn S
Antibacterial efficacy of different combinations of clove, eucalyptus, ginger, and selected antibiotics against clinical isolates of *Pseudomonas aeruginosa*.
Ayu , Volume: 41 Issue: 2 2020 Apr-Jun
Authors Sagar PK,Sharma P,Singh R
Correction to "ZnO/Curcumin Nanocomposites for the Enhanced Inhibition of *Pseudomonas aeruginosa* Virulence via LasR-RhlR Quorum Sensing Systems".
Molecular pharmaceutics , 2021 Dec 7
Authors Prateeksha,Rao CV,Das AK,Barik SK,Singh BN
Multidimensional exploration of essential oils generated via eight oregano cultivars: Compositions, chemodiversities, and antibacterial capacities.
Food chemistry , Volume: 374 2022 Apr 16
Authors Hao Y,Kang J,Yang R,Li H,Cui H,Bai H,Tsitsilin A,Li J,Shi L
A Pilot Study of the Effect of Lactobacillus casei Obtained from Long-Lived Elderly on Blood Biochemical, Oxidative, and Inflammatory Markers, and on Gut Microbiota in Young Volunteers.
Nutrients , Volume: 13 Issue: 11 2021 Oct 29
Authors Mei LH,Zheng WX,Zhao ZT,Meng N,Zhang QR,Zhu WJ,Li RD,Liang XL,Li QY
Lactobacillus casei Zhang exerts probiotic effects to antibiotic-treated rats.
Computational and structural biotechnology journal , Volume: 19 2021
Authors Yao G,Cao C,Zhang M,Kwok LY,Zhang H,Zhang W
Lactobacillus casei ATCC 393 and it's metabolites alleviate dextran sulphate sodium-induced ulcerative colitis in mice through the NLRP3-(Caspase-1)/IL-1ß pathway.
Food & function , Volume: 12 Issue: 23 2021 Nov 29
Authors Dou X,Qiao L,Chang J,Yan S,Song X,Chen Y,Xu Q,Xu C
Effects of dietary rosemary extract supplementation on growth performance, nutrient digestibility, antioxidant capacity, intestinal morphology, and microbiota of weaning pigs.
Journal of animal science , Volume: 99 Issue: 9 2021 Sep 1
Authors Yang M,Yin Y,Wang F,Bao X,Long L,Tan B,Yin Y,Chen J
The construction of recombinant Lactobacillus casei expressing hemagglutinin-neuraminidase protein and its immune response in chickens.
Microbial pathogenesis , Volume: 158 2021 Sep
Authors Ju A,Duan A,Zhang Y,Qin Y,Xue L,Ma X,Luan W,Yang S
Artificial Sweeteners Negatively Regulate Pathogenic Characteristics of Two Model Gut Bacteria, E. coli and E. faecalis.
International journal of molecular sciences , Volume: 22 Issue: 10 2021 May 15
Authors Shil A,Chichger H
Preparation and photodynamic bactericidal effects of curcumin-ß-cyclodextrin complex.
Food chemistry , Volume: 361 2021 Nov 1
Authors Lai D,Zhou A,Tan BK,Tang Y,Sarah Hamzah S,Zhang Z,Lin S,Hu J
Sub-Inhibitory Concentrations of Ciprofloxacin Alone and Combinations with Plant-Derived Compounds against P. aeruginosa Biofilms and Their Effects on the Metabolomic Profile of P. aeruginosa Biofilms.
Antibiotics (Basel, Switzerland) , Volume: 10 Issue: 4 2021 Apr 9
Authors Kart D,Reçber T,Nemutlu E,Sagiroglu M
Curcumin inhibits lipopolysaccharide and lipoteichoic acid-induced expression of proinflammatory cytokines and production of PGE(2) in the primary bubaline endometrial stromal cells.
Molecular biology reports , Volume: 47 Issue: 12 2020 Dec
Authors Ali A,Dar RR,Ahmad SF,Singh SK,Patra MK,Panigrahi M,Kumar H,Krishnaswamy N
Does Curcumin Have a Role in the Interaction between Gut Microbiota and Schistosoma mansoni in Mice?
Pathogens (Basel, Switzerland) , Volume: 9 Issue: 9 2020 Sep 19
Authors Anter A,El-Ghany MA,Abou El Dahab M,Mahana N
Micronized curcumin fabricated by supercritical CO(2) to improve antibacterial activity against Pseudomonas aeruginosa.
Artificial cells, nanomedicine, and biotechnology , Volume: 48 Issue: 1 2020 Dec
Authors Xue B,Huang J,Zhang H,Li B,Xu M,Zhang Y,Xie M,Li X
Antibacterial Activity and Mechanism of Ginger Essential Oil against Escherichia coli and Staphylococcus aureus.
Molecules (Basel, Switzerland) , Volume: 25 Issue: 17 2020 Aug 30
Authors Wang X,Shen Y,Thakur K,Han J,Zhang JG,Hu F,Wei ZJ
Impact of Heat-Killed Lactobacillus casei Strain IMAU60214 on the Immune Function of Macrophages in Malnourished Children.

Nutrients , Volume: 12 Issue: 8 2020 Jul 31
Authors Rocha-Ramírez LM,Hernández-Ochoa B,Gómez-Manzo S,Marcial-Quino J,Cárdenas-Rodríguez N,Centeno-Leija S,García-Garibay M
Curcumin, a Natural Antimicrobial Agent with Strain-Specific Activity.
Pharmaceuticals (Basel, Switzerland) , Volume: 13 Issue: 7 2020 Jul 16
Authors Adamczak A,Ozarowski M,Karpinski TM
Rosemary and Tea Tree Essential Oils Exert Antibiofilm Activities In Vitro against Staphylococcus aureus and Escherichia coli.
Journal of food protection , Volume: 83 Issue: 7 2020 Jul 1
Authors Liu T,Wang J,Gong X,Wu X,Liu L,Chi F
Antioxidant, Anti-Inflammatory, and Microbial-Modulating Activities of Essential Oils: Implications in Colonic Pathophysiology.
International journal of molecular sciences , Volume: 21 Issue: 11 2020 Jun 10
Authors Spisni E,Petrocelli G,Imbesi V,Spigarelli R,Azzinnari D,Donati Sarti M,Campieri M,Valerii MC
Thymus vulgaris L. Essential Oil Solid Formulation: Chemical Profile and Spasmolytic and Antimicrobial Effects.
Biomolecules , Volume: 10 Issue: 6 2020 Jun 4
Authors Micucci M,Protti M,Aldini R,Frosini M,Corazza I,Marzetti C,Mattioli LB,Tocci G,Chiarini A,Mercolini L,Budriesi R
In Vitro Antibacterial Activity of Ethanol Extracts of Cinnamomum zeylanicum against Pseudomonas aeruginosa.
Mymensingh medical journal : MMJ , Volume: 29 Issue: 2 2020 Apr
Authors Salma U,Sultana S,Saha SK,Ahmed SM,Salma MU,Nahar K,Ahmed SM
Chemical Composition and Antioxidant, Antimicrobial, and Antiproliferative Activities of Cinnamomum zeylanicum Bark Essential Oil.
Evidence-based complementary and alternative medicine : eCAM , Volume: 2020 2020
Authors Alizadeh Behbahani B,Falah F,Lavi Arab F,Vasiee M,Tabatabaee Yazdi F
Synergistic antibacterial, antifungal and antioxidant efficacy of cinnamon and clove essential oils in combination.
Archives of microbiology , Volume: 202 Issue: 6 2020 Aug
Authors Purkait S,Bhattacharya A,Bag A,Chattopadhyay RR
Thymol Chemotype Origanum vulgare L. Essential Oil as a Potential Selective Bio-Based Herbicide on Monocot Plant Species.
Molecules (Basel, Switzerland) , Volume: 25 Issue: 3 2020 Jan 29
Authors Grulová D,Caputo L,Elshafie HS,Baranová B,De Martino L,Sedlák V,Gogalová Z,Porácová J,Camele I,De Feo V
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
Lactobacillus casei ATCC 393 alleviates Enterotoxigenic Escherichia coli K88-induced intestinal barrier dysfunction via TLRs/mast cells pathway.
Life sciences , Volume: 244 2020 Mar 1
Authors Xu C,Yan S,Guo Y,Qiao L,Ma L,Dou X,Zhang B
Curcumin: A natural derivative with antibacterial activity against Clostridium difficile.
Journal of global antimicrobial resistance , Volume: 21 2020 Jun
Authors Mody D,Athamneh AIM,Seleem MN
Immunomodulatory Effects of Lactobacillus plantarum on Inflammatory Response Induced by Klebsiella pneumoniae.
Infection and immunity , Volume: 87 Issue: 11 2019 Nov
Authors Vareille-Delarbre M,Miquel S,Garcin S,Bertran T,Balestrino D,Evrard B,Forestier C
Inhibition of Escherichia coli adhesion to human intestinal Caco-2?cells by probiotic candidate Lactobacillus plantarum strain L15.
Microbial pathogenesis , Volume: 136 2019 Nov
Authors Alizadeh Behbahani B,Noshad M,Falah F
Synbiotic-like effect of linoleic acid overproducing Lactobacillus casei with berry phenolic extracts against pathogenesis of enterohemorrhagic Escherichia coli.
Gut pathogens , Volume: 11 2019
Authors Tabashsum Z,Peng M,Bernhardt C,Patel P,Carrion M,Biswas D
Effect of Bay Leaves Essential Oil Concentration on the Properties of Biodegradable Carboxymethyl Cellulose-Based Edible Films.
Materials (Basel, Switzerland) , Volume: 12 Issue: 15 2019 Jul 24
Authors Rincón E,Serrano L,Balu AM,Aguilar JJ,Luque R,García A
Orally administered Lactobacillus casei exhibited several probiotic properties in artificially suckling rabbits.
Asian-Australasian journal of animal sciences , Volume: 33 Issue: 8 2020 Aug 1

Authors Shen XM,Cui HX,Xu XR

Linoleic Acids Overproducing Lactobacillus casei Limits Growth, Survival, and Virulence of Salmonella Typhimurium and Enterohaemorrhagic Escherichia coli.

Frontiers in microbiology , Volume: 9 2018

Authors Peng M,Tabashsum Z,Patel P,Bernhardt C,Biswas D

Antimicrobial activity of spices essential oils and its effectiveness on mature biofilms of human pathogens.

Natural product research , 2018 Oct 13

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

Antimicrobial Activity of Five Essential Oils against Bacteria and Fungi Responsible for Urinary Tract Infections.

Molecules (Basel, Switzerland) , Volume: 23 Issue: 7 2018 Jul 9

Authors Ebani VV,Nardoni S,Bertelloni F,Pistelli L,Mancianti F

Antagonistic effect of isolated probiotic bacteria from natural sources against intestinal Escherichia coli pathotypes.

Electronic physician , Volume: 10 Issue: 3 2018 Mar

Authors Karimi S,Rashidian E,Birjandi M,Mahmoodnia L

Screening and characterization of selected drugs having antibacterial potential.

Pakistan journal of pharmaceutical sciences , Volume: 31 Issue: 3 2018 May

Authors Javed H,Tabassum S,Erum S,Murtaza I,Muhammad A,Amin F,Nisar MF

Feasibility of a Lactobacillus casei Drink in the Intensive Care Unit for Prevention of Antibiotic Associated Diarrhea and Clostridium difficile.

Nutrients , Volume: 10 Issue: 5 2018 Apr 26

Authors Alberda C,Marcushamer S,Hewer T,Journault N,Kutsogiannis D

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

Phytochemical screening and biological activity of Lamiaceae family plant extracts.

Experimental and therapeutic medicine , Volume: 15 Issue: 2 2018 Feb

Authors Cocan I,Alexa E,Danciu C,Radulov I,Galuscan A,Obistioiu D,Morvay AA,Sumalan RM,Poiana MA,Pop G,Dehelean CA