

AbsoBiome



Clinical Applications

- Supports a healthy GI microbial balance*
- Supports immune health in the GI tract*
- Supports gut health *

AbsoBiome is a targeted blend of nutrients and botanicals with a long history of use for supporting a healthy microbial balance within the gastrointestinal (GI) tract. * This proprietary blend of botanicals includes Tribulus extract, berberine, bearberry extract, black walnut powder, barberry extract, artemisinin, along with magnesium and caprylic acid from magnesium caprylate. Research shows that the bioactive constituents in these botanicals possess properties that may help promote a healthy balance of normal gut flora. *

All Absolute Health Formulas Meet or Exceed cGMP Quality Standards

Discussion

Tribulus Extract (*Tribulus terrestris*) is an annual shrub native to warm, subtropical, and desert climates such as Southern Europe, Southern Asia, and the Middle East. It has been used medicinally in traditional Chinese and Indian medicines for centuries.¹ It contains many bioactive compounds including saponins and alkaloids that may have health-promoting properties, such as the support of GI microbial balance.*¹ Tribulus has been shown to exhibit antibacterial activity against several types of pathogenic bacteria and yeast, including *Enterococcus faecalis*, *Staphylococcus aureus*, *Escherichia coli*, *Candida albicans*, *Salmonella typhimurium*, *Proteus vulgaris*, *Corynebacteria diphtheria*, and *Pseudomonas aeruginosa*.¹⁻⁶

Berberine Sulfate (*Berberis aristata*) and **Barberry Extract** (*Berberis spp.*) Berberine is a bitter-tasting, yellow plant alkaloid found in the roots, rhizomes, and stem bark of various plants, including Oregon grape, barberry, and goldenseal. Berberine has been shown to have antimicrobial, antiviral, and anti-parasitic properties, including properties against potential pathogens in the GI microbiome.⁷⁻¹³ It has been shown to inhibit the growth of *Giardia lamblia*, *Vibrio cholera*, and *Entamoeba histolytica*.^{8,9} Studies have also demonstrated its potential to inhibit yeast and several species of bacteria, including *C. albicans*, *S. aureus*, *E. coli*, and *P. aeruginosa*.¹⁰

A systematic review and meta-analysis reviewed 13 randomized controlled trials that added berberine in doses ranging from 120 mg to 500 mg to standard triple therapy treatment for 1 to 2 weeks for *Helicobacter pylori* eradication. The researchers found that the addition of berberine significantly improved *H. pylori* eradication rates. It also increased the healing rate of peptic ulcers, supported the relief of clinical symptoms, and reduced the incidence of adverse events compared to standard therapy.⁷ Studies have also demonstrated the potential for berberine to be effective against *Clostridium difficile*, including as an adjunct therapy alongside vancomycin, helping to prevent a relapsed infection of *C. difficile*.^{14,15} Berberine may support GI health by strengthening intestinal tight junctions and reducing gut permeability, an effect observed in human intestinal epithelial cells in vitro.¹⁶

Artemisinin (*Artemisia annua*; **Sweet Wormwood**) is derived from the inner bark of the *Artemisia annua* tree. Its common name was dubbed "wormwood," owing to its noted ability to kill parasitic worms. This compound has long been used as an antimalarial.¹⁷ It contains many bioactive compounds that may promote health and support a healthy microbial balance, including flavonoids, eriodictiol, luteolin, and quercetin.¹⁸ Studies have demonstrated its efficacy against parasites that induce GI symptoms and various pathogenic bacteria and fungi, including *S. aureus*, *Staphylococcus epidermidis*, *E. faecalis*, *Enterobacter cloacae*, *E. coli*, *S. typhimurium*, and *C. albicans*.^{18,19} It has also been shown to be effective against a range of viruses, including human cytomegalovirus, Epstein-Barr virus, herpes simplex type 1, and hepatitis B and C.²⁰⁻²² Artemisinin also supports antioxidant status and immune function.¹⁸

Black Walnut Extract (*Juglans nigra*) has a long history of use as an intestinal antiparasitic (vermifuge, anthelmintic) in botanical medicine. It also possesses activity against common bacterial and fungal pathogens that occur in GI dysbiosis. There have been at least six distinct bioactive compounds with antibacterial effects identified in black walnuts, some of which are also antiviral, antifungal, and antiparasitic/antiprotozoal.^{23,24} These include glansreginin A, azelaic acid, quercetin, and eriodictyol-7-O-glucoside.²³ Black walnut extract is effective against *S. aureus*.²³ Black walnut extract also has potent anti-inflammatory effects and was shown to inhibit the secretion of several inflammatory cytokines in cultured human monocytes.²⁵

Bearberry Extract (*Arctostaphylos uva-ursi*) grows in subarctic northern climates in Asia, North America, and Europe, and its medicinal use dates to the 13th century. Uva-ursi contains a compound called arbutoside, which is converted in the gut and liver to hydroquinone. Hydroquinone has antiseptic effects on the GI and urinary tracts.^{26,27} Uva-ursi has been shown to have antibacterial action against pathogenic organisms including *P. aeruginosa*.^{27,28}

Caprylic Acid is a medium-chain fatty acid containing eight carbon atoms found naturally in coconut and palm kernel oils and breast milk. Due to its relatively short chain length, caprylic acid can penetrate and disrupt bacterial cell membranes and reduce biofilm formation.^{29,30} It is effective in inhibiting the growth of *C. difficile*.³¹ It has also been found effective in inhibiting *C. albicans* and its biofilm formation.³²

*These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.

Absolute Health
7350 SW 60th Ave., Suite 2
Ocala, FL 34476
www.AbsoluteHealthOcala.com

AbsoBiome



Supplement Facts

Serving Size 1 capsule

Amount Per Serving	% Daily Value
Magnesium (from Magnesium Caprylate)	10 mg 2%
Tribulus Extract (<i>Tribulus terrestris</i>)(aerial) [standardized to contain 40% saponins]	200 mg *
Magnesium Caprylate (yielding 120 mg caprylic acid)	150 mg *
Berberine Sulfate (<i>Berberis aristata</i>)(root)	100 mg *
Bearberry Extract (<i>Arctostaphylos uva-ursi</i>) (leaf)[standardized to contain 20% arbutin]	100 mg *
Black Walnut Powder (<i>Juglans nigra</i>)(hull)	100 mg *
Barberry Extract (<i>Berberis spp.</i>)(bark) [standardized to contain 6% berberine]	50 mg *
Artemisinin (from Sweet Wormwood) (<i>Artemisia annua</i>)(herb)	15 mg *

*Daily Value not established.

Other Ingredients: Cellulose (capsule), vegetable stearate, silicon dioxide.

Contains tree nuts (walnuts).

Directions

Take one capsule per day on an empty stomach or as recommended by your health care professional.

Cautions

Contains tree nuts: Walnuts.

Does Not Contain

Gluten, corn, yeast, artificial colors, and flavors.



References

- Chhatre S, Nesari T, Somani G, Kanchan D, Sathaye S. Phytopharmacological overview of *Tribulus terrestris*. *Pharmacogn Rev.* 2014;8(15):45–51. doi:10.4103/0973-7847.125530.
- Arulmozhi P, Vijayakumar S, Kumar T. Phytochemical analysis and antimicrobial activity of some medicinal plants against selected pathogenic microorganisms. *Microb Pathog.* 2018;123:219–226. doi:10.1016/j.micpath.2018.07.009.
- Al-Bayati FA, Al-Mola HF. Antibacterial and antifungal activities of different parts of *Tribulus terrestris* L. growing in Iraq. *J Zhejiang Univ Sci B.* 2008;9(2):154–159. doi:10.1631/jzus.B0720251.
- Naz R, Ayub H, Nawaz S, et al. Antimicrobial activity, toxicity and anti-inflammatory potential of methanolic extracts of four ethnomedicinal plant species from Punjab, Pakistan. *BMC Complement Altern Med.* 2017;17(1):302. doi:10.1186/s12906-017-1815-z.
- Tian C, Zhang Z, Wang H, Guo Y, Zhao J, Liu M. Extraction technology, component analysis, and in vitro antioxidant and antibacterial activities of total flavonoids and fatty acids from *Tribulus terrestris* L. fruits. *Biomed Chromatogr.* 2019;33(4):e4474. doi:10.1002/bmc.4474.
- Shahid M, Riaz M, Talpur MM, Pirzada T. Phytopharmacology of *Tribulus terrestris*. *J Biol Regul Homeost Agents.* 2016;30(3):785–788.
- Hu Q, Peng Z, Li L, et al. the efficacy of berberine-containing quadruple therapy on helicobacter pylori eradication in China: a systematic review and meta-analysis of randomized clinical trials. *Front Pharmacol.* 2020;10:1694. doi:10.3389/fphar.2019.01694
- Imanshahidi M, Hosseinzadeh H. Pharmacological and therapeutic effects of *Berberis vulgaris* and its active constituent, berberine. *Phytother Res.* 2008;22(8):999–1012. doi:10.1002/ptr.2399.
- Imenshahidi M, Hosseinzadeh H. *Berberis vulgaris* and berberine: an update review. *Phytother Res.* 2016;30(11):1745–1764. doi:10.1002/ptr.5693.
- Pandey G, Khatoun S, Pandey MM, Rawat AKS. Altitudinal variation of berberine, total phenolics and flavonoid content in *Thalictrum foliolosum* and their correlation with antimicrobial and antioxidant activities. *J Ayurveda Integr Med.* 2018;9(3):169–176. doi:10.1016/j.jaim.2017.02.010.
- More NV, Kharat KR, Kharat AS. Berberine from *Argemone mexicana* L exhibits a broad spectrum antibacterial activity. *Acta Biochim Pol.* 2017;64(4):653–660. doi:10.18388/abp.2017_1621.
- Dharmgaye S, Devaux F, Vandeputte P, et al. Molecular mechanisms of action of herbal antifungal alkaloid berberine, in *Candida albicans*. *PLoS One.* 2014;9(8):e104554. doi:10.1371/journal.pone.0104554.
- Wang YX, Yang L, Wang HQ, et al. Synthesis and evolution of berberine derivatives as a new class of antiviral agents against Enterovirus 71 through the MEK/ERK pathway and autophagy. *Molecules.* 2018;23(8):2084. doi:10.3390/molecules23082084.
- Lv Z, Peng G, Liu W, Xu H, Su J. Berberine blocks the relapse of *Clostridium difficile* infection in C57BL/6 mice after standard vancomycin treatment. *Antimicrob Agents Chemother.* 2015;59(7):3726–3735. doi:10.1128/AAC.04794-14
- Wultrańska D, Piotrowski M, Pituch H. The effect of berberine chloride and/or its combination with vancomycin on the growth, biofilm formation, and motility of *Clostridioides difficile*. *Eur J Clin Microbiol Infect Dis.* 2020;39(7):1391–1399. doi:10.1007/s10096-020-03857-0
- Gu L, Li N, Li Q, et al. The effect of berberine in vitro on tight junctions in human Caco-2 intestinal epithelial cells. *Fitoterapia.* 2009;80(4):241–248. doi:10.1016/j.fitote.2009.02.005.
- Ho WE, Peh HY, Chan TK, Wong WS. Artemisinins: pharmacological actions beyond anti-malarial. *Pharmacol Ther.* 2014;142(1):126–139. doi:10.1016/j.pharmthera.2013.12.001
- Abiri R, Silva ALM, de Mesquita LSS, et al. Towards a better understanding of *Artemisia vulgaris*: botany, phytochemistry, pharmacological and biotechnological potential. *Food Res Int.* 2018;109:403–415. doi:10.1016/j.foodres.2018.03.072
- Pandey N, Pandey-Rai S. Updates on artemisinin: an insight to mode of actions and strategies for enhanced global production. *Protoplasma.* 2016;253(1):15–30. doi:10.1007/s00709-015-0805-6
- Naß J, Efferth T. The activity of *Artemisia* spp. and their constituents against Trypanosomiasis. *Phytomedicine.* 2018;47:184–191. doi:10.1016/j.phymed.2018.06.002
- Efferth T, Romero MR, Wolf DG, Stamminger T, Marin JJ, Marschall M. The antiviral activities of artemisinin and artesunate. *Clin Infect Dis.* 2008;47(6):804–811. doi:10.1086/591195.
- Liu X, Cao J, Huang G, Zhao Q, Shen J. Biological Activities of Artemisinin Derivatives Beyond Malaria. *Curr Top Med Chem.* 2019;19(3):205–222. doi:10.2174/1568026619666190122144217.
- Ho KV, Lei Z, Sumner LW, et al. Identifying antibacterial compounds in black walnuts (*Juglans nigra*) using a metabolomics approach. *Metabolites.* 2018;8(4):58. doi:10.3390/metabo8040058.
- Ellendorff T, Brun R, Kaiser M, Sendker J, Schmidt TJ. PLS-prediction and confirmation of hydrojuglone glucoside as the antitrypanosomal constituent of *Juglans* spp. *Molecules.* 2015;20(6):10082–10094. doi:10.3390/molecules200610082.
- Ho KV, Schreiber KL, Vu DC, et al. black walnut (*Juglans nigra*) extracts inhibit proinflammatory cytokine production from lipopolysaccharide-stimulated human promonocytic cell line U-937. *Front Pharmacol.* 2019;10:1059. doi:10.3389/fphar.2019.01059.
- Yarnell E. Botanical medicines for the urinary tract. *World J Urol.* 2002;20(5):285–293. doi:10.1007/s00345-002-0293-0.
- Tolmacheva AA, Rogozhin EA, Deryabin DG. Antibacterial and quorum sensing regulatory activities of some traditional Eastern-European medicinal plants. *Acta Pharm.* 2014;64(2):173–186. doi:10.2478/acph-2014-0019.
- Cybulska P, Thakur SD, Foster BC, et al. Extracts of Canadian first nations medicinal plants, used as natural products, inhibit neisseria gonorrhoeae isolates with different antibiotic resistance profiles. *Sex Transm Dis.* 2011;38(7):667–671. doi:10.1097/OLQ.0b013e31820cb166.
- Diaz DeRienza MA, Stevenson P, Marchant R, Banat. IM. Antibacterial properties of biosurfactants against selected Gram-positive and -negative bacteria. *FEMS Microbiol Lett.* 2016;363(2):fnv224. doi:10.1093/femsle/fnv224.
- Kim HW, Rhee MS. Response surface modeling of reductions in uropathogenic *Escherichia coli* biofilms on silicone by cranberry extract, caprylic acid, and thymol. *Biofouling.* 2018;34(6):710–717. doi:10.1080/08927014.2018.1488969.
- Shilling M, Matt L, Rubin E, et al. Antimicrobial effects of virgin coconut oil and its medium-chain fatty acids on *Clostridium difficile*. *J Med Food.* 2013;16(12):1079–1085. doi:10.1089/jmf.2012.0303
- Lee JH, Kim YG, Khadke SK, Lee J. Antibiofilm and antifungal activities of medium-chain fatty acids against *Candida albicans* via mimicking of the quorum-sensing molecule farnesol. *Microb Biotechnol.* 2021;14(4):1353–1366. doi:10.1111/1751-7915.13710
- Hurtado-Barroso S, Tresserra-Rimbau A, Vallverdu-Queralt A, Lamuela-Raventos RM. Organic food and the impact on human health. *Crit Rev Food Sci Nutr.* 2017 Nov 30:1-11. doi: 10.1080/10408398.2017.1394815. [Epub ahead of print]

*These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.