

#	Ingredient	Stage	Brief Summary from Abstract	Citation
1	Ashwagandha	Animal	Identified its p53-activating tumor-inhibiting factor as withanone providing the first molecular evidence that the leaf extract of ashwagandha selectively kills tumor cells and, thus, is a natural source for safe anticancer medicine.	Nashi Widodo, Kamaljit Kaur, Bhupal G. Shrestha, Yasuomi Takagi, Tetsuro Ishii, Renu Wadhwa and Sunil C. Kaul. Selective Killing of Cancer Cells by Leaf Extract of Ashwagandha: Identification of a Tumor-Inhibitory Factor and the First Molecular Insights to Its Effect. Clin Cancer Res April 1 2007 (13) (7) 2298-2306
2	Ashwagandha	Animal	Demonstrated to possess adaptogenic, anti-inflammatory, antioxidant, anti-platelet, antihypertensive, hypoglycemic and hypolipidemic effects which may contribute to its cardioprotective properties.	Shreesh Kumar Ojha and Dharamvir Singh Arya. Withania somnifera Dunal (Ashwagandha): A Promising Remedy for Cardiovascular Diseases. World Journal of Medical Sciences 4 (2): 156-158, 2009
3	Ashwagandha	Animal	A significant modulation of immune reactivity was observed in all the three animal models used. Ashwagandha prevented myelosuppression in mice treated with all three immunosuppressive drugs tested. A significant increase in hemoglobin concentration, red blood cell count, white blood cell count, and platelet count.	Mohammed Ziauddin, Neeta Phansalkar, Pralhad Patki, Sham Diwanay, Bhushan Patwardhan. Studies on the immunomodulatory effects of Ashwagandha. Journal of Ethnopharmacology, Volume 50, Issue 2, 1996, Pages 69-76.
4	Ashwagandha	Animal	WSG induced an anxiolytic effect, comparable to lorazepam. Also exhibited an antidepressant effect, comparable with that induced by imipramine, in the forced swim-induced 'behavioural despair' and 'learned helplessness' tests. The investigations support the use of WS as a mood stabilizer in clinical conditions of anxiety and depression.	S.K. Bhattacharya, A. Bhattacharya, K. Sairam, S. Ghosal. Anxiolytic-antidepressant activity of Withania somnifera glycowithanolides: an experimental study. Phytomedicine, Volume 7, Issue 6, 2000, Pages 463-469.
5	Ashwagandha	Animal	Withania somnifera inhibited lipid peroxidation and protein carbonyl content and improved sperm count and motility. Treatment of infertile men recovered the seminal plasma levels of antioxidant enzymes and vitamin. Treatment reduced oxidative stress, as assessed by decreased levels of various oxidants and improved level of diverse antioxidants.	Ahmad, Mohammad Kaleem et al. Withania somnifera improves semen quality by regulating reproductive hormone levels and oxidative stress in seminal plasma of infertile males. Fertility and Sterility, 2010, Volume 94, Issue 3, 989 - 996.
6	Ashwagandha	Human	Ashwagandha root extract significantly reduced hepatic lipid peroxidation, whereas the activity of antioxidant enzymes such as superoxide dismutase and catalase were increased. These findings reveal that the ashwagandha root extract stimulates thyroidal activity and also enhances the antiperoxidation of hepatic tissue.	Panda, S. and Kar, A. Changes in Thyroid Hormone Concentrations after Administration of Ashwagandha Root Extract to Adult Male Mice. Journal of Pharmacy and Pharmacology, 1998, 50: 1065-1068.
7	Ashwagandha	Human	Ashwagandha root extract treatment group exhibited a significant reduction in scores on all the stress-assessment scales on Day 60, relative to the placebo group and serum cortisol levels were substantially reduced.	Chandrasekhar K, Kapoor J, Anishetty S. A prospective, randomized double-blind, placebo-controlled study of safety and efficacy of a high-concentration full-spectrum extract of ashwagandha root in reducing stress and anxiety in adults. Indian J Psychol Med. 2012;34(3):255-62.
8	Ashwagandha	Human	8-week, randomized, prospective, double-blind, placebo-controlled clinical study, 57 young male subjects (18-50 years old) with little experience in resistance training. Ashwagandha treatment group had significantly greater increases in muscle strength on the bench-press exercise. Statistically significant for all parameters (muscle strength, muscle size and body fat percentage, testosterone, and muscle recovery). Reduces DOMS (aching muscles the day after exercise).	Wankhede S, Langade D, Joshi K, Sinha SR, Bhattacharyya S. Examining the effect of Withania somnifera supplementation on muscle strength and recovery: a randomized controlled trial. J Int Soc Sports Nutr. 2015;12:43.
9	Ashwagandha	Human	Prospective, double-blind, randomized, and placebo-controlled study evaluated Ashwagandha root in cardiorespiratory endurance and quality of life (QOL) in 50 healthy male/female athletic adults. Results show the root extract enhances cardiorespiratory endurance and improves QOL.	Choudhary B, Shetty A, Langade DG. Efficacy of Ashwagandha (Withania somnifera [L.] Dunal) in improving cardiorespiratory endurance in healthy athletic adults. Ayu. 2015;36(1):63-8.
10	Ashwagandha	Review	Increases the stamina of rats during swimming endurance test and reduced cortisol production under stress. Anti-tumor effect in various mice carcinoma models. Cognition Promoting Effect and useful in neurodegenerative diseases. Anxiolytic effect and improves energy levels and mitochondrial health. It is an anti-inflammatory and anti-arthritis agent.	Singh N, Bhalla M, De jager P, Gilca M. An overview on ashwagandha: a Rasayana (rejuvenator) of Ayurveda. Afr J Tradit Complement Altern Med. 2011;8(5 Suppl):208-13.
11	Ashwagandha	Review	50 female subjects were randomized to treatment or placebo. Sexual function was assessed using two psychometric scales, the Female Sexual Function Index (FSFI) Questionnaire and the Female Sexual Distress Scale (FSDS), and by the number of total and successful sexual encounters. Results indicate ashwagandha significantly higher improvement in FSFI (domains of arousal; lubrication; orgasm and satisfaction), FSDS score and the number of successful sexual encounters.	Dongre S, Langade D, Bhattacharyya S. Efficacy and Safety of Ashwagandha (Withania somnifera) Root Extract in Improving Sexual Function in Women: A Pilot Study. Biomed Res Int. 2015;2015:284154.
12	Ashwagandha	Review	Studies indicate ashwagandha possesses anti-inflammatory, antitumor, antistress, antioxidant, immunomodulatory, hemopoietic, and rejuvenating properties. Exerts positive influence on endocrine, cardiopulmonary, and central nervous systems. The mechanisms of action are not fully understood appears to be a safe compound.	Mishra LC, Singh BB, Dagenais S. Scientific basis for the therapeutic use of Withania somnifera (ashwagandha): a review. Altern Med Rev. 2000;5(4):334-46.

13	Ashwagandha	Review	8-week Prospective, randomized, double-blind, placebo-controlled, 50 adults divided into treatment (300mg twice daily) and placebo. Treatment group demonstrated significant improvements compared in both immediate and general memory. Significantly greater improvement in executive function, sustained attention, and information-processing speed.	Choudhary D, Bhattacharyya S, Bose S. Efficacy and Safety of Ashwagandha (<i>Withania somnifera</i> (L.) Dunal) Root Extract in Improving Memory and Cognitive Functions. <i>J Diet Suppl.</i> 2017;14(6):599-612
14	Ashwagandha	Meta	Analysis of five human randomized controlled trials for anxiety or stress. WS intervention resulted in significant improvements in anxiety and stress scales. Beck Anxiety Inventory (BAI) scores decreased by 56.5% in the WS group and decreased 30.5% for psychotherapy while Perceived Stress Scale (PSS) versus placebo; there was a 44.0% reduction in PSS scores in the WS group and a 5.5% reduction in the placebo group.	Pratte MA, Nanavati KB, Young V, Morley CP. An alternative treatment for anxiety: a systematic review of human trial results reported for the Ayurvedic herb ashwagandha (<i>Withania somnifera</i>). <i>J Altern Complement Med.</i> 2014;20(12):901-8.
15	Ashwagandha	Meta	Known as the king of Ayurvedic herbs used as an "adaptogen" (reducing stress and anxiety) also neuroprotective and enhances athletic performance. Evidence-based analysis of 309 scientific papers shows: reduces stress; improve physical performance; improves the formation of memories.	Research analysis by Kamal Patel and verified by the Examine.com Research Team. Last updated on Jun 14, 2018.
16	Black pepper	Cell	This study investigated the antiadipogenic activity of black pepper extract. Analysis using microarray further supports the role of piperine in regulating genes associated with lipid metabolism. Overall, these results suggest that piperine, a major component of black pepper, attenuates fat cell differentiation	Park, U. H., Jeong, H. S., Jo, E. Y., Park, T., Yoon, S. K., Kim, E. J., ... & Um, S. J. (2012). Piperine, a component of black pepper, inhibits adipogenesis by antagonizing PPAR γ activity in 3T3-L1 cells. <i>Journal of agricultural and food chemistry</i> , 60(15), 3853-3860.
17	Black pepper	Cell	Black pepper, with piperine as an active ingredient, holds rich phytochemistry that also includes volatile oil, oleoresins, and alkaloids. Free-radical scavenging activity of black pepper and its active ingredients control progression of tumor growth. Key alkaloid components assist in cognitive brain functioning, boost nutrient's absorption and improve gastrointestinal functionality.	Butt, M. S., Pasha, I., Sultan, M. T., Randhawa, M. A., Saeed, F., & Ahmed, W. (2013). Black pepper and health claims: a comprehensive treatise. <i>Critical reviews in food science and nutrition</i> , 53(9), 875-886.
18	Black pepper	Animal	Piperine, a major alkaloid constituent of black pepper, has diverse physiological actions including killing of cancer cells. Here we show that piperine inhibited the proliferation and G(1)/S transition of human umbilical vein endothelial cells (HUVECs) without causing cell death. Data supports the further investigation of piperine as an angiogenesis inhibitor for use in cancer treatment.	Doucette CD, Hilchie AL, Liwski R, Hoskin DW. Piperine, a dietary phytochemical, inhibits angiogenesis. <i>J Nutr Biochem.</i> 2013;24(1):231-9.
19	Black pepper	Animal	Piperine, a piperidine alkaloid present in black pepper, inhibits the growth of cancer cells, although the mechanism of action is not well understood. In this study, we show that piperine (75-150 μ M) inhibited the growth of several colon cancer cell lines but had little effect on the growth of normal fibroblasts and epithelial cells.	Yaffe, P. B., Power Coombs, M. R., Doucette, C. D., Walsh, M., & Hoskin, D. W. (2015). Piperine, an alkaloid from black pepper, inhibits growth of human colon cancer cells via G1 arrest and apoptosis triggered by endoplasmic reticulum stress. <i>Molecular carcinogenesis</i> , 54(10), 1070-1085.
20	Black pepper	Review	Stimulates digestive enzymes of pancreas, enhances the digestive capacity and significantly reduces the gastrointestinal food transit time. Protect against oxidative damage by inhibiting or quenching free radicals and reactive oxygen species. Lowers lipid peroxidation in vivo and beneficially influences antioxidant molecules and enzymes. Inhibitory influence on enzymatic drug biotransforming reactions in the liver. Enhances bioavailability of phytochemicals. Non-genotoxic, has in fact been found to possess anti-mutagenic and anti-tumor influences.	Srinivasan, K. (2007). Black pepper and its pungent principle-piperine: a review of diverse physiological effects. <i>Critical reviews in food science and nutrition</i> , 47(8), 735-748.
21	Broccoli	Animal	Sulforaphane protects muscle cells during extreme exertion and induces stem cells to develop into muscle cells while deactivating the muscle inhibiting protein myostatin. Chemopreventive activities in different tissues and indirect antioxidant in skeletal muscle preventing exhaustive exercise-induced muscle damage.	Malaguti M, Angeloni C, Garatachea N, et al. Sulforaphane treatment protects skeletal muscle against damage induced by exhaustive exercise in rats. <i>J Appl Physiol.</i> 2009;107(4):1028-36.
22	Broccoli	Animal	SFN increased the mRNA and protein levels of the two forms of 3 α -HSD in the liver of the mice and in cultured murine hepatocyte Hepa1c1c7 cells. These results suggest that SFN treatment increases the amount of 3 α -HSDs in the liver, accelerates the degradation of blood DHT, and subsequently blocks the suppression of hair growth by DHT.	Sasaki M, Shinozaki S, Shimokado K. Sulforaphane promotes murine hair growth by accelerating the degradation of dihydrotestosterone. <i>Biochem Biophys Res Commun.</i> 2016;472(1):250-4.
23	Broccoli	Animal	IL-6 levels significantly decreased with 70 days of broccoli consumption, p < 0.001) and during control phase the inflammatory levels were maintained at low grade. C-reactive protein significantly decreased as well. This study represents an advance in intervention studies as the broccoli sprouts were included in a daily dietary pattern in quantities that reflect a real consumption.	López-chillón MT, Carazo-díaz C, Prieto-merino D, Zafrilla P, Moreno DA, Villaño D. Effects of long-term consumption of broccoli sprouts on inflammatory markers in overweight subjects. <i>Clin Nutr.</i> 2018;
24	Broccoli	Animal	Johns Hopkins University scientists isolated a cancer-fighting phytochemical in broccoli called glucoraphanin, which is the glucosinolate precursor of sulforaphane (SGS). The induction of detoxication enzymes by sulforaphane may be a significant component of the anticarcinogenic action of broccoli.	Zhang Y, Talalay P, Cho CG, Posner GH. A major inducer of anticarcinogenic protective enzymes from broccoli: isolation and elucidation of structure. <i>Proc Natl Acad Sci USA.</i> 1992;89(6):2399-403.
25	Broccoli	Animal	Oral administration of broccoli sprouts and sulforaphane inhibited prostate tumor progression in the TRAMP and PTEN-null mouse models, demonstrating the therapeutic potential of the natural product sulforaphane in the prostate.	Watson G, Beaver L, Williams D, Dashwood R. Phytochemicals from cruciferous vegetables, epigenetics, and prostate cancer prevention. <i>AAPS J.</i> 2013;15(4):951-61.

26	Broccoli	Animal	Sulforaphane appears to be a promising compound with neuroprotective properties that may play an important role in preventing neurodegeneration. especially broccoli contain glucoraphanin.	Tarozzi A, Angeloni C, Malaguti M, Morroni F, Hrelia S, Hrelia P. Sulforaphane as a potential protective phytochemical against neurodegenerative diseases. <i>Oxid Med Cell Longev</i> . 2013;2013:415078.
27	Broccoli	Animal	Reduces the risk of developing many common cancers through regulation of epigenetic mechanisms. Our study indicates a prenatal/maternal BSP dietary treatment exhibited maximal preventive effects in inhibiting breast cancer development.	Li Y, Buckhaults P, Li S, Tollefsbol T. Temporal Efficacy of a Sulforaphane-Based Broccoli Sprout Diet in Prevention of Breast Cancer through Modulation of Epigenetic Mechanisms. <i>Cancer Prev Res (Phila)</i> . 2018;11(8):451-464
28	Broccoli	Human	Sulforaphane (SFN) enhances anti-oxidant systems, ameliorating oxidative injury. SFN inhibits overgrowth of anaerobic microflora and protects small intestine from oxidative injury. Intervention with Broccoli sprouts caused a significant decrease in the duration of attempted defecation and the total CSS score and decreased the percentage of Bifidobacterium in the stool. These results suggest that daily intake of BS improves bowel habit in human subjects.	Yanaka A. Daily intake of broccoli sprouts normalizes bowel habits in human healthy subjects. <i>J Clin Biochem Nutr</i> . 2018;62(1):75-82.
29	Broccoli	Human	Sulforaphane is an anti-cancer compound in cruciferous vegetables, mostly commonly credited to Broccoli. It appears to have general but potent antioxidant and possible anti-inflammatory actions, with the former similar to curcumin.	Research analysis by Kamal Patel and verified by the Examine.com Research Team. Last updated on Jun 14, 2018.
30	Broccoli	Human	Daily intake of sulforaphane-rich broccoli sprouts for 2 months reduces H. pylori colonization in mice and improves the sequelae of infection in infected mice and in humans. This treatment seems to enhance chemoprotection of the gastric mucosa against H. pylori-induced oxidative stress.	Yanaka A, Fahey JW, Fukumoto A, et al. Dietary sulforaphane-rich broccoli sprouts reduce colonization and attenuate gastritis in Helicobacter pylori-infected mice and humans. <i>Cancer Prev Res (Phila)</i> . 2009;2(4):353-60.
31	Broccoli	Review	Oral sulforaphane safely and effectively induces mucosal Phase II enzyme expression in the upper airway of human subjects. This study demonstrates the potential of antioxidant Phase II enzymes induction in the human airway as a strategy to reduce the inflammatory effects of oxidative stress.	Riedl MA, Saxon A, Diaz-sanchez D. Oral sulforaphane increases Phase II antioxidant enzymes in the human upper airway. <i>Clin Immunol</i> . 2009;130(3):244-51.
32	Broccoli	Review	Sulforaphane has been proven as a potent protector against oxidative damage and carcinogens. A plethora of clinical effects are reported in various experimental diseases as well as human clinical studies. Multiple synergistic detoxification and antiinflammatory pathways.	Elbarbry, Fawzy & Elrody, Nehad. (2011). Potential health benefits of sulforaphane: A review of the experimental, clinical and epidemiological evidences and underlying mechanisms. <i>Journal of medicinal plant research</i> . 5. 473-484.
33	Broccoli	Review	Seventy-two patients completed the study which after 4 weeks showed significantly decreased serum triglycerides, OX-LDL/LDL ratio and AIP plus significantly higher HDL-C concentration.	Bahadoran Z, Mirmiran P, Hosseinpahan F, Rajab A, Asghari G, Azizi F. Broccoli sprouts powder could improve serum triglyceride and oxidized LDL/LDL-cholesterol ratio in type 2 diabetic patients: a randomized double-blind placebo-controlled clinical trial. <i>Diabetes Res Clin Pract</i> . 2012;96(3):348-54
34	Broccoli	Review	Significantly decreased oxidative stress in cardiovascular and kidney tissues. Decreased oxidative stress correlated with better endothelial-dependent relaxation of the aorta and significantly lower (20 mm Hg) blood pressure. Less inflammation and infiltrating macrophages. Reduces the risk of developing cardiovascular problems of hypertension and atherosclerosis.	Wu L, Noyan ashraf MH, Facci M, et al. Dietary approach to attenuate oxidative stress, hypertension, and inflammation in the cardiovascular system. <i>Proc Natl Acad Sci USA</i> . 2004;101(18):7094-9.
35	DGBT	Cell	The application of DBT in cultured neuroblastoma cells showed: up-regulation of nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF) and glial cell line-derived neurotrophic factor (GDNF) through activation of their transcriptional promoters. In various animal models DBT has been shown to enhance population of red and white blood cells and increase bone formation - these effects have now been confirmed in cultured human cells.	Gong AGW, Wang HY, Dong TTX, Tsim KWK, Zheng YZ. Danggui Buxue Tang, a simple Chinese formula containing Astragali Radix and Angelicae Sinensis Radix, stimulates the expressions of neurotrophic factors in cultured SH-SY5Y cells. <i>Chin Med</i> . 2017;12:2
36	DGBT	Animal	Ferulic acid is a major active ingredient in DBT which was shown to specifically decrease reactive oxygen species (ROS) formation and both activate and increase transcriptional activity of anti-oxidant enzymes and anti-oxidation systems.	Gong AGW, Huang VY, Wang HY, Lin HQ, Dong TTX, Tsim KWK (2016) Ferulic Acid Orchestrates Anti-Oxidative Properties of Danggui Buxue Tang, an Ancient Herbal Decoction: Elucidation by Chemical Knock-Out Approach. <i>PLoS ONE</i> 11(11): e0165486.
37	DGBT	Animal	The effects of pretreatment with Dang-Gui Buxue Tang on myocardial ischaemia-reperfusion (IR) injury were examined in rats. The treatment delivered dose-dependant potent cardioprotection. DBT supplementation may enhance myocardial mitochondrial and red blood cell glutathione status, increasing resistance to oxidative stress.	Mak DH, Chiu PY, Dong TT, Tsim KW, Ko KM. Dang-Gui Buxue Tang produces a more potent cardioprotective effect than its component herb extracts and enhances glutathione status in rat heart mitochondria and erythrocytes. <i>Phytother Res</i> . 2006;20(7):561-7.

38	DGBT	Animal	A Chinese Herbal Decoction, Danggui Buxue Tang, Improves Chronic Fatigue Syndrome Induced by Food Restriction and Forced Swimming in Rats.	Liu, Ya & Zhang, Hai-Gang & Li, Xiao-Hui. (2011). A Chinese Herbal Decoction, Danggui Buxue Tang, Improves Chronic Fatigue Syndrome Induced by Food Restriction and Forced Swimming in Rats. <i>Phytotherapy research</i> : PTR. 25. 1825-32. 10.1002/ptr.3499.
39	DGBT	Animal	Results indicates DGBX regulates differentiation of T lymphocytes with immunosuppressive and hematogenic functions in animal models of induced auto-immunity.	Deng P, Li X, Wei Y, et al. The herbal decoction modified Danggui Buxue Tang attenuates immune-mediated bone marrow failure by regulating the differentiation of T lymphocytes in an immune-induced aplastic anemia mouse model. <i>PLoS ONE</i> . 2017;12(7):e0180417.
40	DGBT	Human	36 recreationally active males were pair-matched and randomly assigned to receive DBT or a placebo for 11 days. On the eighth day of the supplementation, the participants performed a 13-km run with maximal effort. DBT supplementation shortened running time and repressed exercise-induced hepcidin levels, thereby boosting iron levels and accelerating iron homeostasis during recovery.	Chang CW, Chen CY, Yen CC, Wu YT, Hsu MC. Repressed Exercise-Induced Hepcidin Levels after Danggui Buxue Tang Supplementation in Male Recreational Runners. <i>Nutrients</i> . 2018;10(9)
41	DGBT	Human	After daily oral administration of DGBHT, blood biochemical parameters related to fatigue. Lactic dehydrogenase levels, which indicate muscle damage, declined after DGBHT. Results also suggest that DGBHT improves immune function through the changes in indicators related to fatigue and the regulatory effects on immunological parameters.	Kim MC, Lee GH, Kim SJ, et al. Immune-enhancing effect of Danggui Buxue Tang, an extract from Astragalus Radix and Angelicae gigantis Radix, in vitro and in vivo. <i>Immunopharmacol Immunotoxicol</i> . 2012;34(1):66-73.
42	DGBT	Review	Danggui, also known as <i>Angelica sinensis</i> (Oliv.) Diels (Apiaceae), has been used in Chinese medicine to treat menstrual disorders. Over 70 compounds have been isolated and identified and many bioactivities exhibit anti-inflammatory and immunostimulatory effects (Z-ligustilide exerts anti-inflammatory, anti-cancer, neuroprotective and anti-hepatotoxic effects; n-butylidenephthalide exerts anti-inflammatory, anti-cancer and anti-cardiovascular effects).	Chao WW, Lin BF. Bioactivities of major constituents isolated from <i>Angelica sinensis</i> (Danggui). <i>Chin Med</i> . 2011;6:29.
43	DGBT	Review	Different isolated constituents of <i>Astragalus</i> spp., such as astragalosides, flavonoids and polysaccharides displayed significant prevention of tissue injury via antioxidant mechanisms.	Shahzad M, Shabbir A, Wojcikowski K, Wohlmuth H, Gobe GC. The Antioxidant Effects of Radix Astragali (<i>Astragalus membranaceus</i> and Related Species) in Protecting Tissues from Injury and Disease. <i>Curr Drug Targets</i> . 2016;17(12):1331-40
44	DGBT - AR	Meta	The bioactive compounds were found to be flavonoids, saponins, polysaccharides, amino acids, and some trace elements with reported cardioprotective, hepatoprotective, hypotensive, immunostimulant, anti-aging, anti-oxidative, antidiabetic, and anti-inflammatory activities.	LIU Jing, ZHAO Zhong-zhen, CHEN Hu-biao. Review of Astragalus Radix. <i>School of Chinese Medicine, Hong Kong Baptist University, Hong Kong, China. Chinese Herbal Medicines</i> , 2011, 3(2): 90-105
45	DGBT - AS	Cell	Transcription of many detoxifying enzymes is regulated through the antioxidant response element (ARE). Results show <i>A. sinensis</i> dietary supplements act as chemopreventive agents through induction of detoxification enzymes.	Dietz BM, Liu D, Hagos GK, et al. <i>Angelica sinensis</i> and its alkyphthalides induce the detoxification enzyme NAD(P)H: quinone oxidoreductase 1 by alkylating Keap1. <i>Chem Res Toxicol</i> . 2008;21(10):1939-48.
46	DGBT - AS	Animal	Exercise performance and anti-fatigue function were evaluated by forelimb grip strength, exhaustive swimming time, and various blood tests. <i>Angelica sinensis</i> supplementation significantly increased endurance swimming time, improved exercise performance and had anti-fatigue properties in mice and may be an effective ergogenic aid in exercise training.	Yeh TS, Huang CC, Chuang HL, Hsu MC. <i>Angelica sinensis</i> improves exercise performance and protects against physical fatigue in trained mice. <i>Molecules</i> . 2014;19(4):3926-39.
47	Kale	Chemistry	Spectrophotometric determination of total polyphenols, flavonoids, glucosinolates and antioxidant activity in seeds, seedlings and leaves of Tuscan black kale. The highest content of phytochemicals was observed in 10 days sprouts and antioxidant activity was maximum in 2, 4 days seedlings.	Giorgetti L, Giorgi G, Cherubini E, et al. Screening and identification of major phytochemical compounds in seeds, sprouts and leaves of Tuscan black kale <i>Brassica oleracea</i> (L.) ssp <i>acephala</i> (DC) var. <i>sabellica</i> L. <i>Nat Prod Res</i> . 2018;32(14):1617-1626
48	Kale	Human	The diets and cognitive abilities of more than 950 older adults for an average of five years and saw a significant decrease in the rate of cognitive decline for study participants who consumed greater amounts of green leafy vegetables. People who ate one to two servings per day had the cognitive ability of a person 11 years younger than those who consumed none.	Newsroom: Federation of American Societies for Experimental Biology (FASEB). Eating Green Leafy Vegetables Keeps Mental Abilities Sharp. <i>Experimental Biology</i> 2015.
49	Kale	Human	Absorption of calcium from kale was measured in 11 normal women compared to their absorption of calcium from milk. Fractional calcium absorption from kale averaged 0.409 and from milk 0.321 which makes kale, a low-oxalate vegetable, exhibits excellent absorbability for its calcium.	Heaney RP, Weaver CM. Calcium absorption from kale. <i>Am J Clin Nutr</i> . 1990;51(4):656-7.
50	Maca	Animal	Oral administration of maca enhanced the sexual function of the mice and rats, as evidenced by an increase in the number of complete intromissions and the number of sperm-positive females in normal mice, and a decrease in the LPE in male rats with erectile dysfunction. The present study reveals the aphrodisiac activity of this Andean Mountain plant.	Zheng, Bo Lin et al. Effect of a lipidic extract from <i>Lepidium meyenii</i> on sexual behavior in mice and rats <i>Urology</i> , Volume 55, Issue 4, 598 - 602.

51	Maca	Animal	In the force swimming test, the three varieties of maca assessed reduced the time of immobility. Black Maca appeared to have more beneficial effects on latent learning in OVX mice; meanwhile, all varieties of Maca showed antidepressant activity.	Julio Rubio, Maria Caldas, Sonia Dávila, Manuel Gasco and Gustavo F Gonzales. Effect of three different cultivars of <i>Lepidium meyenii</i> (Maca) on learning and depression in ovariectomized mice. <i>BMC Complementary and Alternative Medicine</i> . 2006, 6:23
52	Maca	Animal	The findings derived from the basis of bone mineral density, biomechanical, biochemical and histopathological parameters indicated that higher dose of ethanol extract of Maca was effective in the prevention of estrogen deficient bone loss.	Yongzhong Zhang, Longjiang Yu, Mingzhang Ao, Wenwen Jin. Effect of ethanol extract of <i>Lepidium meyenii</i> Walp. on osteoporosis in ovariectomized rat. <i>Journal of Ethnopharmacology</i> . Volume 105, Issues 1–2, 21 April 2006, Pages 274-279.
53	Maca	Human	Effect of a 4-month oral treatment with tablets of <i>Lepidium meyenii</i> (Maca) on seminal analysis in nine adult normal men aged 24-44 years old. Treatment with Maca resulted in increased seminal volume, sperm count per ejaculum, motile sperm count, and sperm motility. Maca improved sperm production and sperm motility by mechanisms not related to the hormones tested.	Gonzales GF, Cordova A, Gonzales C, Chung A, Vega K, Villena A. <i>Lepidium meyenii</i> (Maca) improved semen parameters in adult men. <i>Asian J Androl</i> . 2001;3(4):301-3.
54	Maca	Human	Maca reduces psychological symptoms, including anxiety and depression, and lowers measures of sexual dysfunction in postmenopausal women independent of estrogenic and androgenic activity.	Brooks NA, Wilcox G, Walker KZ, Ashton JF, Cox MB, Stojanovska L. Beneficial effects of <i>Lepidium meyenii</i> (Maca) on psychological symptoms and measures of sexual dysfunction in postmenopausal women are not related to estrogen or androgen content. <i>Menopause</i> . 2008;15(6):1157-62.
55	Maca	Human	Maca reduced symptoms of depression and improve diastolic blood pressure in Chinese postmenopausal women.	Stojanovska L, Law C, Lai B, et al. Maca reduces blood pressure and depression, in a pilot study in postmenopausal women. <i>Climacteric</i> . 2015;18(1):69-78.
56	Matcha	Chemistry	The concentration of epigallocatechin gallate (EGCG) available from drinking matcha is 137 times greater than the amount of EGCG available from China Green Tips green tea, and at least three times higher than the largest literature value for other green teas.	Weiss DJ, Anderton CR. Determination of catechins in matcha green tea by micellar electrokinetic chromatography. <i>J Chromatogr A</i> . 2003;1011(1-2):173-80.
57	Matcha	Cell	EGCG regulates ectopic lipid accumulation through a facilitated autophagic flux and implying that EGCG may be a potential therapeutic reagent to prevent cardiovascular complications.	Kim HS, Montana V, Jang HJ, Parpura V, Kim JA. Epigallocatechin gallate (EGCG) stimulates autophagy in vascular endothelial cells: a potential role for reducing lipid accumulation. <i>J Biol Chem</i> . 2013;288(31):22693-705.
58	Matcha	Cell	The rats were given a treatment diet containing 10% matcha for the first five days then fed PCB contaminated rice bran oil. The fecal excretion of PCB, PCDF and PCDD in the group fed with 10% matcha were 4.4, 2.4-9.1 and 2.5-4.7 times higher than that in the control group. The liver distribution of PCB, PCDF and PCDD in the same groups were 79%, 20-75% and 26-67% of the control group, respectively.	Morita K, Matsueda T, Iida T. Effect of green tea (matcha) on gastrointestinal tract absorption of polychlorinated biphenyls, polychlorinated dibenzofurans and polychlorinated dibenzo-p-dioxins in rats. <i>Fukuoka Igaku Zasshi</i> . 1997;88(5):162-8
59	Matcha	Animal	The major green tea constituent EGCG has antibacterial, antifungal and antiviral effects. There is pronounced antifungal activity against human-pathogenic yeasts like <i>Candida albicans</i> . Although the mechanisms are not fully understood, results indicate EGCG binds to lipid membranes and affects bacterial and fungal folic acid metabolism inhibiting cytoplasmic enzymes.	Steinmann J, Buer J, Pietschmann T, Steinmann E. Anti-infective properties of epigallocatechin-3-gallate (EGCG), a component of green tea. <i>Br J Pharmacol</i> . 2013;168(5):1059-73.
60	Matcha	Animal	In this study, we determined the cancer chemopreventive potentials of 10 representative polyphenols. Among the 10 polyphenols, EGCG showed the most potent antiproliferative effects, and significantly induced cell cycle arrest in the G1 phase and cell apoptosis.	Du GJ, Zhang Z, Wen XD, et al. Epigallocatechin Gallate (EGCG) is the most effective cancer chemopreventive polyphenol in green tea. <i>Nutrients</i> . 2012;4(11):1679-91.
61	Matcha	Human	Twelve participants underwent four separate trials assessing l-Theanine impact. The results showed that l-Theanine intake resulted in a reduction in the heart rate (HR) and salivary immunoglobulin A (s-IgA) responses to an acute stress task relative to the placebo control condition. Oral intake of l-Theanine has anti-stress effects via the inhibition of cortical neuron excitation.	Kenta Kimuraa, Makoto Ozekib, Lekh Raj et al. l-Theanine reduces psychological and physiological stress responses. <i>Biological Psychology</i> . Volume 74, Issue 1, January 2007, Pages 39-45.
62	Matcha	Human	Matcha treatment significantly lowered the glucose, triglyceride, and total cholesterol levels in the serum and liver, renal AGE levels, and the serum thiobarbituric acid-reactive substances levels. Matcha protects against hepatic and renal damage through the suppression of renal AGE accumulation, by decreases in hepatic glucose, triglyceride, and total cholesterol levels, and by its antioxidant activities.	Noriko Yamabe, Ki Sung Kang, Jong Moon Hur, and Takako Yokozawa. Matcha, a Powdered Green Tea, Ameliorates the Progression of Renal and Hepatic Damage in Type 2 Diabetic OLETF Rats. <i>Journal of Medicinal Food</i> . 2009. V12, No. 4.
63	Matcha	Human	Chronic fatigue was produced in mice by subjecting them to forced swim daily for 15 days. Epigallocatechin gallate was administered daily before the forced swim. The non-treatment group had a significant increases in oxidative-nitrosative stress and tumour necrosis factor-alpha. Behavioural and biochemical alterations were restored with EGCG treatment indicating EGCG could be of therapeutic potential in the treatment of chronic fatigue.	Sachdeva AK, Kuhad A, Tiwari V, Arora V, Chopra K. Protective effect of epigallocatechin gallate in murine water-immersion stress model of chronic fatigue syndrome. <i>Basic Clin Pharmacol Toxicol</i> . 2010;106(6):490-6.

64	Matcha	Human	Fat oxidation rates were 17% higher with GTE than placebo. The contribution of fat oxidation to total energy expenditure was significantly higher and associated with 13% increase in insulin sensitivity. Acute GTE ingestion increases fat oxidation during moderate-intensity exercise and improves insulin sensitivity and glucose tolerance in healthy young men.	Venables MC, Hulston CJ, Cox HR, Jeukendrup AE. Green tea extract ingestion, fat oxidation, and glucose tolerance in healthy humans. <i>Am J Clin Nutr.</i> 2008;87(3):778-84.
65	Matcha	Review	GT increases fat oxidation and energy expenditure in both sedentary and physically active individuals during exercise. Thermogenic properties of green tea seem to be beyond that explained by its caffeine content. GT blocks the activation of the oxidative stress-sensitive transcription factors and has a glycogen-sparing effect resulting in an improvement of endurance capacity.	Ewa Jówko, Lamprecht M. Antioxidants in Sport Nutrition: Chapter 8 - Green Tea Catechins and Sport Performance. CRC Press/Taylor & Francis; 2015.
66	Matcha	Review	Accumulating evidence has revealed an immunomodulating effect of green tea/EGCG. Several types of immune cells in both the innate and adaptive immune systems are known to be affected. Dramatic effects on T cell functions has been repeatedly demonstrated, including T cell activation, proliferation, differentiation, and production of cytokines. Studies using animal models of autoimmune diseases have reported disease improvement in animals treated with green tea/EGCG.	Pae M, Wu D. Immunomodulating effects of epigallocatechin-3-gallate from green tea: mechanisms and applications. <i>Food Funct.</i> 2013;4(9):1287-303.
67	Matcha	Review	A review was conducted on 49 human intervention studies to summarize the research on acute psychoactive effects of caffeine, L-theanine, and EGCG on different dimensions of mood and cognitive performance. These studies provided reliable evidence showing that L-theanine and caffeine have clear beneficial effects on sustained attention, memory, and suppression of distraction. Moreover, L-theanine was found to lead to relaxation by reducing caffeine induced arousal.	Dietz C, Dekker M. Effect of Green Tea Phytochemicals on Mood and Cognition. <i>Curr Pharm Des.</i> 2017;23(19):2876-2905.
68	Matcha	Meta	Forty-three epidemiological studies, four randomized trials and one meta-analysis were identified. The overall quality of these studies was evaluated as good or moderate. Green tea seems to have multiple beneficial effects on cancer prevention.	Liu J, Xing J, Fei Y. Green tea (<i>Camellia sinensis</i>) and cancer prevention: a systematic review of randomized trials and epidemiological studies. <i>Chin Med.</i> 2008;3:12.
69	Moringa	Cell	When tested against cancer cell lines, the extracts of leaves and bark showed remarkable anti-cancer properties. Cell survival was significantly low in cancer cell lines treated with leaves and bark extracts. A striking reduction (about 70-90%) in colony formation as well as cell motility was also observed. Apoptosis assay performed on the breast and colorectal cancer lines showed a remarkable 7-fold increase in the number of apoptotic cells.	Al-asmari AK, Albalawi SM, Athar MT, Khan AQ, Al-shahrani H, Islam M. <i>Moringa oleifera</i> as an Anti-Cancer Agent against Breast and Colorectal Cancer Cell Lines. <i>PLoS ONE.</i> 2015;10(8):e0135814.
70	Moringa	Animal	MO showed hepatoprotective, anti-inflammatory, and lipid-lowering effects against streptozotocin-induced hepatotoxicity. Histological section demonstrated specific alterations in the liver of the diabetic and nondiabetic male Wistar rats while MO treatment revealed improvement in liver alterations,	Omodanisi EI, Aboua YG, Chegou NN, Oguntibeju OO. Hepatoprotective, Antihyperlipidemic, and Anti-inflammatory Activity of Diabetic-induced Damage in Male Wistar Rats. <i>Pharmacognosy Res.</i> 2017;9(2):182-187.
71	Moringa	Animal	The study evaluated cardioprotective effect of <i>Moringa oleifera</i> in a rat model of cardiovascular disease. Treatment resulted in significant favorable modulation of multiple biochemical enzymes (superoxide dismutase, catalase, glutathione peroxidase, lactate dehydrogenase, and creatine kinase-MB). <i>Moringa</i> treatment prevented lipid peroxidation in myocardial tissue and showed a significant cardioprotective effect, attributed to its antioxidant, antiperoxidative, and myocardial preservative properties.	Nandave M, Ojha SK, Joshi S, Kumari S, Arya DS. <i>Moringa oleifera</i> leaf extract prevents isoproterenol-induced myocardial damage in rats: evidence for an antioxidant, antiperoxidative, and cardioprotective intervention. <i>J Med Food.</i> 2009;12(1):47-55.
72	Moringa	Animal	MONB treatment demonstrates protection against acetylcholine-induced bronchoconstriction and airway inflammation. These results indicate that MONB has an inhibitory effect on airway inflammation. Thus, MONB possesses an antiasthmatic property through modulation of the relationship between Th1/Th2 cytokine imbalances.	Mahajan SG, Banerjee A, Chauhan BF, Padh H, Nivsarkar M, Mehta AA. Inhibitory effect of n-butanol fraction of <i>Moringa oleifera</i> Lam. seeds on ovalbumin-induced airway inflammation in a guinea pig model of asthma. <i>Int J Toxicol.</i> 2009;28(6):519-27.
73	Moringa	Animal	We hypothesized that <i>Moringa oleifera</i> leaves might improve male sexual dysfunction induced by stress. At 7 d of treatment, the low dose of extract improved sexual performance decreasing intromission latency and increasing intromission frequency. The increased sexual performance might have been due to the suppression of MAO-B and PDE-5 activities and increased testosterone.	Prabsattroo T, Wattanathorn J, Iamsaard S, et al. <i>Moringa oleifera</i> extract enhances sexual performance in stressed rats. <i>J Zhejiang Univ Sci B.</i> 2015;16(3):179-90.
74	Moringa	Animal	MEMO significantly relaxed isolated rat corpus cavernosum smooth increasing erectil strength and sexual activity. The increase in erectile function of rats by MEMO could be because of its sEH inhibitory activity.	Goswami SK, Inamdar MN, Deth SM, et al. Erectogenic and Aphrodisiac Property of <i>Moringa oleifera</i> : Involvement of Soluble Epoxide Hydrolase Enzyme. <i>Phytother Res.</i> 2016;30(7):1119-27.
75	Moringa	Review	The multiple biological activities including antiproliferation, hepatoprotective, anti-inflammatory, oxidative DNA damage protective, antiperoxidative, cardioprotective, and folk medicinal uses of <i>M. oleifera</i> are attributed to the presence of functional bioactive compounds, such as phenolic acids, flavonoids, alkaloids, phytosterols, natural sugars, vitamins, minerals, and organic acids.	Saini RK, Sivanesan I, Keum YS. Phytochemicals of <i>Moringa oleifera</i> : a review of their nutritional, therapeutic and industrial significance. <i>3 Biotech.</i> 2016;6(2):203.

76	Moringa	Review	Moringa oleifera has an impressive range of medicinal including circulatory stimulant, antitumor, antipyretic, antiepileptic, antiinflammatory, antiulcer, antispasmodic, diuretic, antihypertensive, cholesterol lowering, antioxidant, antidiabetic, hepatoprotective, antibacterial and antifungal activities.	Anwar F, Latif S, Ashraf M, Gilani AH. Moringa oleifera: a food plant with multiple medicinal uses. <i>Phytother Res.</i> 2007;21(1):17-25.
77	Moringa	Meta	Numerous bioactive components, including vitamins, phenolic acids, flavonoids, isothiocyanates, tannins and saponins, are present in significant amounts. It has been well documented that Moringa Oleifera leaves are beneficial in several chronic conditions, including hypercholesterolemia, high blood pressure, diabetes, insulin resistance, non-alcoholic liver disease, cancer and overall inflammation.	Vergara-jimenez M, Almatrafi MM, Fernandez ML. Bioactive Components in Moringa Oleifera Leaves Protect against Chronic Disease. <i>Antioxidants (Basel).</i> 2017;6(4)
78	Spinach	Chemistry	Thirteen compounds, isolated from spinach (<i>Spinacia oleracea</i>), acted as antimutagens against the dietary carcinogen 2-amino-3-methylimidazo[4,5-f]quinoline in <i>Salmonella typhimurium</i> TA 98.	Rudolf Edenharder et al. Isolation and Characterization of Structurally Novel Antimutagenic Flavonoids from Spinach (<i>Spinacia oleracea</i>). <i>J. Agric. Food Chem.</i> , 2001, 49 (6), pp 2767–2773
79	Spinach	Chemistry	Spinach leaves were found to contain two potent antitumor promoters as detected by the activity against tumor promoter-induced Epstein-Barr virus activation.	Rong WANG, Toshio FURUMOTO, Koichiro MOTOYAMA, Katsuchihiro OKAZAKI, Akira KONDO, Hiroshi FUKUI. Possible Antitumor Promoters in <i>Spinacia oleracea</i> (Spinach) and Comparison of their Contents among Cultivars. <i>Food & Nutrition Science Regular Papers.</i> 2002 Volume 66 Issue 2 Pages 248-254
80	Spinach	Human	The results of the present study revealed that AESO was effective in attenuating almost all the symptoms of IBD in experimental paradigms. The effect might be due to the antioxidant activity of the flavonoids present in the AESO.	Otari, K.V., Gaikwad, P.S., Shete, R.V. et al. Protective effect of aqueous extract of <i>Spinacia oleracea</i> leaves in experimental paradigms of inflammatory bowel disease. <i>Inflammopharmacol</i> (2012) 20: 277.
81	Spinach	Review	Spinach-derived phytochemicals and bioactives scavenge reactive oxygen species and prevent oxidative damage. They modulate expression and activity of genes involved in metabolism, proliferation, inflammation, and antioxidant defence, contribute to the anti-cancer, anti-obesity, hypoglycemic, and hypolipidemic properties of spinach. Despite these valuable attributes, spinach consumption remains low in comparison to other leafy green vegetables.	Roberts JL, Moreau R. Functional properties of spinach (<i>Spinacia oleracea</i> L.) phytochemicals and bioactives. <i>Food Funct.</i> 2016;7(8):3337-53.
82	Spirulina	Chemistry	Forty-one patients of chronic arsenic poisoning were randomly treated orally by either placebo or spirulina. There was a sharp increase in urinary excretion of arsenic (138 +/- 43.6 microg/l) at 4 weeks following spirulina plus zinc administration and the effect was continued for another 2 weeks. Spirulina extract plus zinc removed 47.1% arsenic from scalp hair. Results show that spirulina extract (250 mg) plus zinc (2 mg) twice daily for 16 weeks may be useful for the treatment of chronic arsenic poisoning with melanosis and keratosis.	Misbahuddin M, Islam AZ, Khandker S, Iftahker-al-mahmud, Islam N, Anjumanara . Efficacy of spirulina extract plus zinc in patients of chronic arsenic poisoning: a randomized placebo-controlled study. <i>Clin Toxicol (Phila).</i> 2006;44(2):135-41
83	Spirulina	Chemistry	The presence of a variety of chemical constituents, such as saponins, phenols, glycosides, flavonoids and alkaloids were analyzed and phytochemical screening showed the presence of active molecules and antioxidant potential.	Kannan M et al. Phytochemical screening and antioxidant activity of marine algae <i>Gracilaria corticata</i> and <i>Spirulina platensis</i> . <i>Journal of Chemical and Pharmaceutical Research.</i> 2004, 6(11):312-318
84	Spirulina	Animal	Spirulina influences the immune system by increasing activity of macrophages, stimulating antibody production and various other positive and mobilizing influences. Spirulina also has a regulatory role on lipid and carbohydrate metabolism in animal and human models. Preparations are active against several viruses including herpes and influenza and inhibits carcinogenesis due to anti-oxidant properties that protect tissues and reduce toxicity of liver, kidney and testes.	Khan Z, Bhadouria P, Bisen PS. Nutritional and therapeutic potential of Spirulina. <i>Curr Pharm Biotechnol.</i> 2005 Oct;6(5):373-9. Review.
85	Spirulina	Animal	The present study points out that the hepatoprotective, anti-inflammatory, and anti-arthritis properties of phycocyanin may be due, in part, to its selective COX-2 inhibitory property, although its ability to efficiently scavenge free radicals and effectively inhibit lipid peroxidation may also be involved.	Reddy CM, Bhat VB, Kiranmai G, Reddy MN, Reddanna P, Madyastha KM. Selective inhibition of cyclooxygenase-2 by C-phocyanin, a biliprotein from <i>Spirulina platensis</i> . <i>Biochem Biophys Res Commun.</i> 2000;277(3):599-603.
86	Spirulina	Animal	Results suggest that Spirulina has a protective effect against nephrotoxicity induced by CsA. This study further supports the crucial role of the antioxidant nature of Spirulina in protecting against CsA-induced oxidative stress.	Khan M, Shobha JC, Mohan IK, Rao Naidu MU, Prayag A, Kutala VK. Spirulina attenuates cyclosporine-induced nephrotoxicity in rats. <i>J Appl Toxicol.</i> 2006;26(5):444-51.
87	Spirulina	Animal	We observed a decrease in activated microglia in the rats that received a spirulina-enhanced diet concomitant to neuroprotection. The increase in CX3CR1 in the groups that received spirulina, suggests a potential mechanism of action.	Pabon MM, Jernberg JM, Morganti J, et al. A spirulina-enhanced diet provides neuroprotection in an a-synuclein model of Parkinson's disease. <i>PLoS One.</i> 2012; 7(9):e45256.

88	Spirulina	Animal	Animals treated with blueberry, spinach, or spirulina had significantly lower caspase-3 activity in the ischemic hemisphere. In conclusion, our data suggest that chronic treatment with blueberry, spinach, or spirulina reduces ischemia/reperfusion-induced apoptosis and cerebral infarction.	Wang Y, Chang CF, Chou J, Chen HL, Deng X, Harvey BK, Cadet JL, Bickford PC. Dietary supplementation with blueberries, spinach or spirulina reduces ischemic brain damage. <i>Exp Neurol</i> . 2005;193(1):75-84.
89	Spirulina	Animal	Plasma concentrations of malondialdehyde (MDA) were significantly decreased after supplementation with spirulina and blood superoxide dismutase (SOD) was significantly raised. The lactate (LA) concentration was higher and the time to exhaustion (TE) was significantly extended in the spirulina trail suggesting preventive effect regarding skeletal muscle damage and postponement of the time of exhaustion during the all-out exercise.	Lu HK, Hsieh CC, Hsu JJ, Yang YK, Chou HN. Preventive effects of <i>Spirulina platensis</i> on skeletal muscle damage under exercise-induced oxidative stress. <i>Eur J Appl Physiol</i> . 2006 Sep;98(2):220-6.
90	Spirulina	Animal	Spirulina-treated groups had better passive and avoidance scores than the control group. The amyloid β -protein (A β) deposition was significantly reduced at the hippocampus and whole brain in both Spirulina groups. The levels of lipid peroxidation were significantly reduced at the hippocampus, striatum, and cortex in both Spirulina groups. Spirulina may prevent the loss of memory possibly by lessening A β protein accumulation, reducing oxidative damage and mainly augmenting the catalase activity.	Hwang JH, Lee IT, Jeng KC, et al. Spirulina prevents memory dysfunction, reduces oxidative stress damage and augments antioxidant activity in senescence-accelerated mice. <i>J Nutr Sci Vitaminol</i> . 2011;57(2):186-91.
91	Spirulina	Human	Animals received a dose of <i>S. platensis</i> for 4 days and then were inoculated with <i>Candida albicans</i> . Prophylaxis with <i>S. platensis</i> had synergistic effect through producing cytokines such as TNF- α and IFN- γ . Our results provide important information for the potential application of <i>S. platensis</i> in the treatment of candidiasis.	Soltani M, Khosravi AR, Asadi F, Shokri H. Evaluation of protective efficacy of <i>Spirulina platensis</i> in Balb/C mice with candidiasis. <i>J Mycol Med</i> . 2012;22(4):329-34.
92	Spirulina	Human	Spirulina exerts antihypertensive actions by improving endothelial dysfunction in metabolic syndrome. These results suggest that long-term administration of phycocyanin may ameliorate systemic blood pressure by enhancing eNOS expression in aorta that is stimulated by adiponectin.	Ichimura M, Kato S, Tsuneyama K, et al. Phycocyanin prevents hypertension and low serum adiponectin level in a rat model of metabolic syndrome. <i>Nutr Res</i> . 2013;33(5):397-405.
93	Stevia	Chemistry	Stevia, a non-caloric natural sweetener with beneficial properties and considerable antioxidants and amino acids.	Periche A, Koutsidis G, Escriche I. Composition of antioxidants and amino acids in Stevia leaf infusions. <i>Plant Foods Hum Nutr</i> . 2014;69(1):1-7.
94	Stevia	Cell	Lyme disease is a tick-borne multisystemic disease caused by <i>Borrelia burgdorferi</i> . In this study, we evaluated the effectiveness of whole leaf Stevia extract against <i>B. burgdorferi</i> spirochetes, persists, and biofilm forms in vitro. When Stevia and the three antibiotics were tested against attached biofilms, Stevia significantly reduced <i>B. burgdorferi</i> forms. Results from this study suggest that a natural product such as Stevia leaf extract could be considered as an effective agent against <i>B. burgdorferi</i> .	Theophilus PA, Victoria MJ, Socarras KM, et al. Effectiveness of Stevia Rebaudiana Whole Leaf Extract Against the Various Morphological Forms of <i>Borrelia burgdorferi</i> in Vitro. <i>Eur J Microbiol Immunol (Bp)</i> . 2015;5(4):268-80.
95	Stevia	Animal	Generally, in condition of metabolic disorders caused by intensive consumption of dietary fructose Stevia leaves contributes to the control of neuronal synaptic plasticity possibly influencing the conjugated NOX-specific targets.	Chavushyan VA, Simonyan KV, Simonyan RM, et al. Effects of stevia on synaptic plasticity and NADPH oxidase level of CNS in conditions of metabolic disorders caused by fructose. <i>BMC Complement Altern Med</i> . 2017;17(1):540.
96	Stevia	Review	Stevia is a natural-origin sweetener that is increasing the options for reduced sugar and reduced energy foods and beverages. Stevia shows promise as a tool to help lower energy intakes, which may lead to the reduction and prevention of obesity.	Ashwell M. Stevia, Nature's Zero-Calorie Sustainable Sweetener: A New Player in the Fight Against Obesity. <i>Nutr Today</i> . 2015;50(3):129-134.
97	Stevia	Review	Inclusion of stevia leaf extracts in the diet has been associated with antihyperglycemic, insulinotropic, glucagonostatic, hypotensive, anticarcinogenic, antiviral, antimicrobial, anti-inflammatory, immunostimulatory and chemopreventative responses. Stevia leaf extracts and their constituent phytonutrients promote caloric balance and enhance other aspects of human health.	Jocelynn E. Thomas and Michael J. Glade. Stevia: It's Not Just About Calories. <i>The Open Obesity Journal</i> , 2010, 2, 101-109 101.
98	Turmeric	Cell	Compelling evidence has shown that curcumin has the ability to inhibit inflammatory cell proliferation, invasion, and angiogenesis through multiple molecular targets and mechanisms of action. Curcumin is safe, non-toxic, and mediates its anti-inflammatory effects through the down-regulation of inflammatory transcription factors, cytokines and enzymes that promote inflammation. Curcumin induces apoptosis through mitochondrial and receptor-mediated pathways, as well as activation of caspase cascades.	Shehzad A, Rehman G, Lee YS. Curcumin in inflammatory diseases. <i>Biofactors</i> . 2013;39(1):69-77.
99	Turmeric	Animal	Systemic treatment of mice with curcumin for 7 days clears and reduces existing plaques. Curcumin also led to a limited, but significant reversal of structural changes in dystrophic dendrites, including abnormal curvature and dystrophy size. Together, these data suggest that curcumin reverses existing amyloid pathology and associated neurotoxicity.	Garcia-alloza M, Borrelli LA, Rozkalne A, Hyman BT, Bacskai BJ. Curcumin labels amyloid pathology in vivo, disrupts existing plaques, and partially restores distorted neurites in an Alzheimer mouse model. <i>J Neurochem</i> . 2007;102(4):1095-104.

100	Turmeric	Animal	Accumulating evidence indicates that curcumin, a phenolic compound extracted from turmeric, can overcome de novo chemoresistance and re-sensitize tumors to various chemotherapeutic agents. This study indicates clinical relevance for combining curcumin with chemotherapy to overcome chemoresistance in PDAC.	Yoshida K, Toden S, Ravindranathan P, Han H, Goel A. Curcumin sensitizes pancreatic cancer cells to gemcitabine by attenuating PRC2 subunit EZH2, and the lncRNA PVT1 expression. <i>Carcinogenesis</i> . 2017;38(10):1036-1046.
101	Turmeric	Human	We show that curcumin inhibited platelet aggregation mediated by the platelet agonists. These results suggest that the curcumin-mediated preferential inhibition of PAF- and AA-induced platelet aggregation involves inhibitory effects on TXA2 synthesis and Ca2+ signaling, but without the involvement of PKC.	Shah BH, Nawaz Z, Pertani SA, et al. Inhibitory effect of curcumin, a food spice from turmeric, on platelet-activating factor- and arachidonic acid-mediated platelet aggregation through inhibition of thromboxane formation and Ca2+ signaling. <i>Biochem Pharmacol</i> . 1999;58(7):1167-72.
102	Turmeric	Human	Results indicate that aspirin and ibuprofen are least potent, while resveratrol, curcumin, celecoxib, and tamoxifen are the most potent anti-inflammatory and antiproliferative agents of those we studied.	Takada Y, Bhardwaj A, Potdar P, Aggarwal BB. Nonsteroidal anti-inflammatory agents differ in their ability to suppress NF-kappaB activation, inhibition of expression of cyclooxygenase-2 and cyclin D1, and abrogation of tumor cell proliferation. <i>Oncogene</i> . 2004;23(57):9247-58.
103	Turmeric	Human	This study provides first clinical evidence that curcumin is an effective and safe treatment for patients (equal to prescription anti-depressants) but without the dangerous side-effects like suicidal thoughts and psychotic disturbances.	Sanmukhani J, Satodia V, Trivedi J, et al. Efficacy and safety of curcumin in major depressive disorder: a randomized controlled trial. <i>Phytother Res</i> . 2014;28(4):579-85.
104	Turmeric	Review	The beneficial effects of turmeric are traditionally achieved through dietary consumption, even at low levels, over long periods of time. The activities of turmeric include antibacterial, antiviral, anti-inflammatory, antitumor, antioxidant, antiseptic, cardioprotective, hepatoprotective, nephroprotective, radioprotective, and digestive activities. Phytochemical analysis of turmeric has revealed a large number of compounds, including curcumin, volatile oil, and curcuminoids, which have been found to have potent pharmacological properties.	"Sahdeo Prasad and Bharat B. Aggarwal. <i>Herbal Medicine: Biomolecular and Clinical Aspects</i> . Turmeric, the Golden Spice From Traditional Medicine to Modern Medicine. 2nd edition. Ch 13.
105	Turmeric	Review	Extensive in vitro and in vivo studies suggested curcumin has anticancer, antiviral, antiarthritic, anti-amyloid, antioxidant, and anti-inflammatory properties. Due to its efficacy and regulation of multiple targets, as well as its safety for human use, curcumin has received considerable interest as a potential therapeutic agent for the prevention and/or treatment of various malignant diseases, arthritis, allergies, Alzheimer's disease, and other inflammatory illnesses.	Zhou H, Beevers CS, Huang S. The targets of curcumin. <i>Curr Drug Target</i> . 2011 Mar 1;12(3):332-47.
106	Turmeric	Meta	We systemically evaluated clinical trials of turmeric extracts and curcumin for treating arthritis. Three studies reported reduction of pain whereas meta-analysis of four studies showed a decrease of symptoms. These studies provide scientific evidence that supports the efficacy of turmeric extract (about 1000 mg/day of curcumin) in the treatment of arthritis.	Daily JW, Yang M, Park S. Efficacy of Turmeric Extracts and Curcumin for Alleviating the Symptoms of Joint Arthritis: A Systematic Review and Meta-Analysis of Randomized Clinical Trials. <i>J Med Food</i> . 2016;19(8):717-29.
107	Turmeric	Meta	This systematic review was conducted to examine the evidence for the use of both topical and ingested turmeric/curcumin to modulate skin health and function. Ten studies noted statistically significant improvement in skin disease severity in the turmeric/curcumin treatment groups compared with control groups.	Vaughn AR, Branum A, Sivamani RK. Effects of Turmeric (Curcuma longa) on Skin Health: A Systematic Review of the Clinical Evidence. <i>Phytother Res</i> . 2016;30(8):1243-64.
108	Turmeric	Meta	A large number of studies on curcumin were reviewing including studies on the antioxidant, anti-inflammatory, antiviral, and antifungal properties of curcuminoids. Curcumin has been demonstrated to be safe in six human trials and has demonstrated anti-inflammatory activity. It may exert its anti-inflammatory activity by inhibition of a number of different molecules that play a role in inflammation.	Chainani-Wu N. Safety and anti-inflammatory activity of curcumin: a component of tumeric. <i>J Altern Complement Med</i> . 2003 Feb;9(1):161-8.
109	Turmeric	Meta	The effect of curcumin administration in reducing the serum levels of cholesterol and lipid peroxides was studied in ten healthy human volunteers, receiving 500 mg of curcumin per day for 7 days. A significant decrease in the level of serum lipid peroxides (33%), increase in HDL Cholesterol (29%), and a decrease in total serum cholesterol (11.63%) were noted.	Soni KB, Kuttan R. Effect of oral curcumin administration on serum peroxides and cholesterol levels in human volunteers. <i>Indian J Physiol Pharmacol</i> . 1992 Oct;36(4):273-5.
110	Turmeric	Meta	From weeks 4 to 8, curcumin was significantly more effective than placebo in improving several mood-related symptoms, demonstrated by a significant group x time interaction for IDS-SR30 total score and IDS-SR30 mood score. Greater efficacy from curcumin treatment was identified in a subgroup of individuals with atypical depression.	Lopresti AL, Maes M. Curcumin for the treatment of major depression: a randomised, double-blind, placebo controlled study. <i>J Affect Disord</i> . 2014 Oct;167:368-75. doi: 10.1016/j.jad.2014.06.001.
111	Yamabushitake	Animal	The results revealed that <i>H. erinaceus</i> prevented impairments of spatial short-term and visual recognition memory induced by amyloid β (25-35) peptide. This finding indicates that <i>H. erinaceus</i> may be useful in the prevention of cognitive dysfunction.	Mori, K., Obara, Y., Moriya, T., Inatomi, S., Nakahata, N. 2011. "Effects of <i>Hericium erinaceus</i> on amyloid β (25-35) peptide-induced learning and memory deficits in mice." <i>Biomed Res</i> . 32(1):67-72.

112	Yamabushitake	Human	A double-blind, parallel-group, placebo-controlled trial on 50- to 80-year-old Japanese men and women diagnosed with mild cognitive impairment. The Yamabushitake group showed significantly increased scores on the cognitive function scale compared with the placebo group. Laboratory tests showed no adverse effect of Yamabushitake. The results obtained in this study suggest that Yamabushitake is effective in improving mild cognitive impairment.	Mori, K (2009). "Improving effects of the mushroom Yamabushitake (<i>Herichium erinaceus</i>) on mild cognitive impairment: a double-blind placebo-controlled clinical trial". <i>Phytotherapy Research</i> : 367–372. PMID 18844328.
113	Yamabushitake	Review	The influence of lion's mane influence on neurological functions may also have other added benefits including mood improvement. Post-menopausal women who consumed lion's mane baked into cookies vs. those without showed less anxiety and depression yet improved in their ability to concentrate. Our results show that HE intake has the possibility to reduce depression and anxiety and these results suggest a different mechanism from NGF-enhancing action of <i>H. erinaceus</i> .	Nagano, M., Shimizu, K., Kondo, R., Hayashi, C., Sato, D., Kitagawa, K., Ohnuki, K. 2010. "Reduction of depression and anxiety by 4 weeks <i>Herichium erinaceus</i> intake." <i>Biomed Res.</i> 31(4):231-7.
114	Yamabushitake	Review	Yamabushitake, known as the Lion's Mane Mushroom, is a dietary mushroom that can be a supplement. It appears to be a promising cognitive enhancer and immunomodulator (thought to stimulate or suppress inflammation depending on context).	Research analysis by Kamal Patel and verified by the Examine.com Research Team. Last updated on Oct 2, 2018.
115	Yamabushitake	Meta	The mushroom is abundant in bioactive compounds including β -glucan polysaccharides; hericenones and erinacine terpenoids; isoindolinones; sterols; and myconutrients, which potentially have neuroprotective and neuroregenerative properties. Because of its anti-inflammatory properties and promotion of nerve growth factor gene expression and neurite (axon or dendrite) outgrowth, <i>H. erinaceus</i> mycelium shows great promise for the treatment of Alzheimer's and Parkinson's diseases. The fungus was well tolerated in two clinical studies, with few adverse events reported.	Spelman, Kevin; Sutherland, Elizabeth; Bagade, Aravind (2017). "Neurological Activity of Lion's Mane (<i>Herichium erinaceus</i>)" (PDF). <i>Journal of Restorative Medicine.</i> 6 (1): 19–26. doi:10.14200/jrm.2017.6.0108.