

Ingredient spotlight:

- ¹ Anwar, H., Irfan, S., Hussain, G., Naeem Faisal, M., Muzaffar, H., Mustafa, I., Mukhtar, I., Malik, S., & Irfan Ullah, M. (2020). Gut Microbiome: A New Organ System in Body. In *Parasitology and Microbiology Research* (pp. 1–20). IntechOpen.
- ² Anwar, H., Irfan, S., Hussain, G., Naeem Faisal, M., Muzaffar, H., Mustafa, I., Mukhtar, I., Malik, S., & Irfan Ullah, M. (2020). Gut Microbiome: A New Organ System in Body. In *Parasitology and Microbiology Research* (pp. 1–20). IntechOpen.
- ³ Di Cerbo, A., Palmieri, B., Aponte, M., Morales-Medina, J. C., & Iannitti, T. (2016). Mechanisms and therapeutic effectiveness of lactobacilli. *Journal of Clinical Pathology*, 69(3), 187–203.
- ⁴ Jäger R, Mohr AE, Carpenter KC, Kerksick CM, Purpura M, Moussa A, et al. International Society of Sports Nutrition Position Stand: Probiotics. *J Int Soc Sports Nutr.* 2019;16(1):1–44.
- ⁵ Drago, L., Toscano, M., De Vecchi, E., Piconi, S., & Iemoli, E. (2012). Changing of fecal flora and clinical effect of *L. salivarius* LS01 in adults with atopic dermatitis. *Journal of Clinical Gastroenterology*, 46(S1), 56–63.
- ⁶ Jäger R, Mohr AE, Carpenter KC, Kerksick CM, Purpura M, Moussa A, et al. International Society of Sports Nutrition Position Stand: Probiotics. *J Int Soc Sports Nutr.* 2019;16(1):1–44.
- ⁷ Liu Q, Yu Z, Tian F, Zhao J, Zhang H, Zhai Q, et al. Surface components and metabolites of probiotics for regulation of intestinal epithelial barrier. *Microb Cell Fact* [Internet]. 2020;19(1):1–11. Available from: <https://doi.org/10.1186/s12934-020-1289-4>
- ⁸ Deidda, F., Amoruso, A., Nicola, S., Graziano, T., Pane, M., & Mogna, L. (2018). New Approach in Acne Therapy A Specific Bacteriocin Activity and a Targeted Anti IL-8 Property in Just 1 Probiotic Strain, the *L. salivarius* LS03. *Journal of Clinical Gastroenterology*, 52, S78–S81.
- ⁹ Rinaldi, F., Marotta, L., Mascolo, A., Amoruso, A., Pane, M., Giuliani, G., & Pinto, D. (2022). Facial Acne: A Randomized, Double-Blind, Placebo-Controlled Study on the Clinical Efficacy of a Symbiotic Dietary Supplement. *Dermatology and Therapy*.
- ¹⁰ Liu Q, Yu Z, Tian F, Zhao J, Zhang H, Zhai Q, et al. Surface components and metabolites of probiotics for regulation of intestinal epithelial barrier. *Microb Cell Fact* [Internet]. 2020;19(1):1–11. Available from: <https://doi.org/10.1186/s12934-020-1289-4>
- ¹¹ Segers, M. E., & Lebeer, S. (2014). Towards a better understanding of *Lactobacillus rhamnosus* GG - host interactions. *Microbial Cell Factories*, 13(Suppl 1), S7.
- ¹² Ducrotté, P. (2012). Clinical trial: *Lactobacillus plantarum* 299v (DSM 9843) improves symptoms of irritable bowel syndrome. *World Journal of Gastroenterology*, 18(30), 4012.
- ¹³ Hoppe, M., Önning, G., & Hulthén, L. (2017). Freeze-dried *Lactobacillus plantarum* 299v increases iron absorption in young females - Double isotope sequential single-blind studies in menstruating women. *PLoS ONE*, 12(12), 1–15.

Ask the experts:

Rose Holmes:

¹ Watters CM, Burton T, Kirui DK, Millenbaugh NJ (2016) Enzymatic degradation of in vitro *Staphylococcus aureus* biofilms supplemented with human plasma. *Infection and Drug Resistance* 9:71-78.

Cleanse feature:

Sophie Barrett:

Zhang W, Jiang X, Zhao S, et al. A polysaccharide-peptide with mercury clearance activity from dried fruiting bodies of maitake mushroom *Grifola frondosa*. *Sci Rep*. 2018;8(1):17630. Published 2018 Dec 4. doi:10.1038/s41598-018-35945-9

Yeh JY, Hsieh LH, Wu KT, Tsai CF. Antioxidant properties and antioxidant compounds of various extracts from the edible basidiomycete *Grifola frondosa* (Maitake). *Molecules*. 2011;16(4):3197–3211. Published 2011 Apr 15. doi:10.3390/molecules16043197

Dai XW et al., [Experimental study on intervention effect of *Grifola frondosa* on nonalcoholic steatohepatitis]. *Zhongguo Zhong Yao Za Zhi*. 2015 May;40(9):1808-11.

Chen GT et al., Isolation, purification and antioxidant activities of polysaccharides from *Grifola frondosa*. *Carbohydr Polym*. 2012 Jun 5;89(1):61-6

Chen Z et al., Oral administration of *Grifola frondosa* polysaccharides improves memory impairment in aged rats via antioxidant action. *Mol Nutr Food Res*. 2017 Nov;61(11).

Živković L et al., Antigenotoxic Properties of *Agaricus blazei* against Hydrogen Peroxide in Human Peripheral Blood Cells. *Oxid Med Cell Longev*. 2017;2017:8759764..

Ker YB et al., Antioxidant capability of polysaccharides fractionated from submerged-cultured *Agaricus blazei* mycelia. *J Agric Food Chem*. 2005 Sep 7;53(18):7052-8.

Chang JB et al., Carbon tetrachloride-induced hepatotoxicity and its amelioration by *Agaricus blazei* Murrill extract in a mouse model. *In Vivo*. 2011 Nov-Dec;25(6):971-6.

Zhang C et al., The protective effects of aqueous extracts of wild-growing and fermented Royal Sun mushroom, *Agaricus brasiliensis* S. Wasser et al. (higher basidiomycetes), in CCl₄-induced oxidative damage in rats. *Int J Med Mushrooms*. 2012;14(6):557-61.

Al-Dbass AM et al., *Agaricus blazei* Murrill as an efficient hepatoprotective and antioxidant agent against CCl₄-induced liver injury in rats. *Saudi J Biol Sci*. 2012 Jul;19(3):303-9.

Hu X et al., The Protective Effects of Polysaccharides from *Agaricus blazei* Murrill Against Cadmium-Induced Oxidant Stress and Inflammatory Damage in Chicken Livers. *Biol Trace Elem Res*. 2017 Jul;178(1):117-126.

Lv A et al., Effects of *Agaricus blazei* Murrill Polysaccharide on Cadmium Poisoning on the MDA5 Signaling Pathway and Antioxidant Function of Chicken Peripheral Blood Lymphocytes. *Biol Trace Elem Res*. 2018 Jan;181(1):122-132.

Chen H et al., Antioxidant activities of polysaccharides from *Lentinus edodes* and their significance for disease prevention. *Int J Biol Macromol*. 2012 Jan 1;50(1):214-8

Ren Z et al., The regulation of inflammation and oxidative status against lung injury of residue polysaccharides by *Lentinula edodes*. *Int J Biol Macromol*. 2018 Jan;106:185-192.

Wang Y et al., Structural determination and antioxidant activity of a polysaccharide from the fruiting bodies of cultured *Cordyceps sinensis*. *Am J Chin Med*. 2009;37(5):977-89.

He PF et al., Structure elucidation and antioxidant activity of a novel polysaccharide from *Polyporus umbellatus* sclerotia. *Int J Biol Macromol*. 2016 Jan;82:411-7.

Zhang G et al., Diuretic activity and kidney medulla AQP1, AQP2, AQP3, V2R expression of the aqueous extract of sclerotia of *Polyporus umbellatus* FRIES in normal rats. *J Ethnopharmacol*. 2010 Mar 24;128(2):433-7.

Zhao YY et al., Bioactivity-directed isolation, identification of diuretic compounds from *Polyporus umbellatus*. *J Ethnopharmacol*. 2009 Oct 29;126(1):184-7.

Peng Y, Chen Q, Yang T, Tao Y, Lu X, Liu C. Cultured mycelium *Cordyceps sinensis* protects liver sinusoidal endothelial cells in acute liver injured mice. *Mol Biol Rep*. 2014;41(3):1815–1827. doi:10.1007/s11033-014-3031-y

Chen P et al., Comparison of antioxidant and antiproliferation activities of polysaccharides from eight species of medicinal mushrooms. *Int J Med Mushrooms*. 2015;17(3):287-95.

Reis FS et al., Antioxidant properties and phenolic profile of the most widely appreciated cultivated mushrooms: a comparative study between in vivo and in vitro samples. *Food Chem Toxicol*. 2012 May;50(5):1201-7.

Kozarski M., Klaus A., Niksic M., Jakovljevic D., Helsper J.P.F.G., van Griensven L.J.L.D. Antioxidative and immunomodulating activities of polysaccharide extracts of the medicinal mushrooms *Agaricus bisporus*, *Agaricus brasiliensis*, *Ganoderma lucidum* and *Phellinus linteus*. *Food Chem*. 2011;129:1667–1675.

Brain health feature:

Sophie Barrett:

Li IC, Chang HH, Lin CH, et al. Prevention of Early Alzheimer's Disease by Erinacine A-Enriched *Hericum erinaceus* Mycelia Pilot Double-Blind Placebo-Controlled Study. *Front Aging Neurosci*. 2020;12:155. Published 2020 Jun 3. doi:10.3389/fnagi.2020.00155.

Mori K, Inatomi S, Ouchi K, Azumi Y, Tuchida T (2009) Improving effects of the mushroom Yamabushitake (*Hericum erinaceus*) on mild cognitive impairment: a double-blind placebo-controlled clinical trial. *Phytotherapy Research* 23, 367-372.

Kim, Y. O., Lee, S. W., & Kim, J. S. (2014). A comprehensive review of the therapeutic effects of *Hericum erinaceus* in neurodegenerative disease. *Journal of Mushroom*, 12(2), 77-81.

Mori K, Obara Y, Hirota M, Azumi Y, Kinugasa S, Inatomi S, Nakahata N (2008) Nerve growth factor-inducing activity of *Hericum erinaceus* in 1321N1 human astrocytoma cells. *Biological and Pharmaceutical Bulletin* 31, 1727-1732.

Li IC, Lee LY, Tzeng TT, et al. Neurohealth Properties of *Hericum erinaceus* Mycelia Enriched with Erinacines. *Behav Neurol*. 2018;2018:5802634. Published 2018 May 21. doi:10.1155/2018/5802634.

Kawagishi, H., Zhuang, C., & Yunoki, R. (2008). Compounds for dementia from *Hericum erinaceum*. *Drugs of the Future*, 33(2), 149.

Ma BJ, Shen JW, Yu HY, Ruan Y, Wu TT, Zhao X (2010) Hericenones and erinacines: stimulators of nerve growth factor (NGF) biosynthesis in *Hericum erinaceus*. *Mycology* 1, 92-98.

Moldavan M, Grygansky AP, Kolotushkina OV, Kirchhoff B, Skibo GG, Pedarzani P (2007) Neurotropic and trophic action of Lion's Mane mushroom *Hericum erinaceus*

(Bull.: Fr.) Pers. (Aphyllphoromycetideae) extracts on nerve cells in vitro. *International Journal of Medicinal Mushrooms* 9, 15-28.

Yu, N., Huang, Y., Jiang, Y., Zou, L., Liu, X., Liu, S., ... & Zhu, Y. (2020). Ganoderma lucidum triterpenoids (GLTs) reduce neuronal apoptosis via inhibition of ROCK signal pathway in APP/PS1 transgenic Alzheimer's disease mice. *Oxidative medicine and cellular longevity*, 2020.

Huang, S., Mao, J., Ding, K., Zhou, Y., Zeng, X., Yang, W., ... & Pei, G. (2017). Polysaccharides from Ganoderma lucidum promote cognitive function and neural progenitor proliferation in mouse model of Alzheimer's disease. *Stem cell reports*, 8(1), 84-94.

Klaus AS, Kozarski MS, Nikšić MP (2011) Antioxidant properties of hot water extracts from carpophore and spores of mushroom Ganoderma lucidum. *Proceedings for Natural Science, Matica Srpska Novi Sad* 120, 277-286.

Kozarski MS, Klaus AS, Nikšić MP (2011) Extract from wild strain of mushroom Ganoderma lucidum as natural antioxidant. *Proceedings for Natural Science, Matica Srpska Novi Sad* 120, 287-295.

Rachel Bartholomew:

1. Vargas Visentin AP, Colombo R, et al. Targeting inflammatory-mitochondrial response in major depression: current evidence and further challenges. *Oxidative Medicine and Cellular Longevity*. Vol 2020, Article ID 2972968, 20 pages, 2020.
2. Kinney JW, Bemiller SM, et al. Inflammation as a central mechanism in Alzheimer's disease. *Alzheimers Dement (NY)*. 2018; 4: 575-590.
3. Picard M & McEwen BS. Psychological stress and mitochondria: a systematic review. *Psychosomatic Medicine: 2/3 2018 – Volume 80 -Issue 2-p 141-153*
4. Boyle NB, Lawton C et al. The effects of magnesium supplementation on subjective anxiety and stress – a systematic review. *Nutrients* 2017 May; 9(5): 429
5. Tarleton EK, Littenberg B, MacLean CD et al. Role of magnesium supplementation in the treatment of depression: A randomized clinical trial. *PLOS One* June 27 2017. <https://doi.org/10.1371/journal.pone.0180067>
6. Barragán-Rodríguez L, Rodríguez-Morán M, Guerrero-Romero F. Efficacy and safety of oral magnesium supplementation in the treatment of depression in the elderly with type 2 diabetes: a randomised, equivalent trial. *Magnes Res* 2008; 21: 218–23.
7. Doboszewska U, Wlaz P et al. Zinc in the monoaminergic theory of depression: Its relationship to neural plasticity. *Neural Plast.* 2017; 2017: 3682752
8. Watanabe M., Tamano H., Kikuchi T., Takeda A. Susceptibility to stress in young rats after 2-week zinc deprivation. *Neurochemistry International*. 2010;56(3):410–416. doi: 10.1016/j.neuint.2009.11.014.
9. Takeda A, Tamano H et al. Behavioural abnormality induced by enhanced hypothalamo-pituitary-adrenocortical axis activity under dietary zinc deficiency and its usefulness as a model. *Int J Mol Sci*. 2016 Jul; 17(7): 1149
10. Takeda A., Tamano H., Nishio R., Murakami T. Behavioral abnormality induced by enhanced hypothalamo-pituitary-adrenocortical axis activity under dietary zinc deficiency and its usefulness as a model. *International Journal of Molecular Sciences*. 2016;17(7, article 1149) doi: 10.3390/ijms17071149.
11. Freed RD, Hollenhorst CN, et al. A pilot study of cortical glutathione in youth with depression. *Psychiatry Research: Neuroimaging*. Volume 270, 30 December 2017, pages 54-60

Keri Briggs:

Adeva-Andany MM, Calvo-Castro I, Fernández-Fernández C, Donapetry-García C, Pedre-Piñeiro AM. Significance of l-carnitine for human health. *IUBMB Life*. 2017 Aug;69(8):578-594.

The American College of Rheumatology nomenclature and case definitions for neuropsychiatric lupus syndromes. *Arthritis Rheum*. 1999;42(4):599–608.

Benros ME, Sørensen HJ, Nielsen PR, Nordentoft M, Mortensen PB, Petersen L. The Association between Infections and General Cognitive Ability in Young Men - A Nationwide Study. *PLoS One*. 2015 May 13;10(5)

Biessels GJ, Staekenborg S, Brunner E, Brayne C, Scheltens P. Risk of dementia in diabetes mellitus: a systematic review. *Lancet Neurol*. 2006;5(1):64–74.

Boespflug E. L., McNamara R. K., Eliassen J. C., Schidler M. D., Krikorian R. Fish oil supplementation increases event-related posterior cingulate activation in older adults with subjective memory impairment. *The Journal of Nutrition, Health & Aging*. 2016;20(2):161–169.

Caffara P and Santamaria V. The effects of phosphatidylserine in patients with mild cognitive decline. An open trial. *Clin Trials J*, 24 (1987), pp. 109-114

Chang CY, Ke DS, Chen JY. Essential fatty acids and human brain. *Acta Neurol Taiwan*. 2009 Dec;18(4):231-41. PMID: 20329590

Chang M., Jonsson P. V., Snaedal J., et al. The effect of midlife physical activity on cognitive function among older adults: AGES—Reykjavik Study. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*. 2010;65(12):1369–1374.

Chen PL, Lee WJ, Sun WZ, Oyang YJ, Fuh JL: Risk of dementia in patients with insomnia and long-term use of hypnotics: a population-based retrospective cohort study. *PLoS One* 2012;7:e49113.

Cherbuin N, Sachdev P, Anstey KJ. Higher normal fasting plasma glucose is associated with hippocampal atrophy: The PATH Study. *Neurology*. 2012;79(10):1019–26.

Choudhary D, Bhattacharyya S, Bose S. Efficacy and Safety of Ashwagandha (*Withania somnifera* (L.) Dunal) Root Extract in Improving Memory and Cognitive Functions. *J Diet Suppl*. 2017;14:599–612.

Colcombe S. J., Erickson K. I., Raz N., et al. Aerobic fitness reduces brain tissue loss in aging humans. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*. 2003;58(2):176–180.

Colovic MB, Krstic DZ, Lazarevic-Pasti TD, Bondzic AM, Vasic VM. Acetylcholinesterase inhibitors: pharmacology and toxicology. *Curr Neuropharmacol*. 2013;11(3):315–335.

Conklin S. M., Gianaros P. J., Brown S. M., et al. Long-chain omega-3 fatty acid intake is associated positively with corticolimbic gray matter volume in healthy adults. *Neuroscience Letters*. 2007;421(3):209–212.

Crichton, Georgina E., Merrill F. Elias, Adam Davey, Kevin J. Sullivan, and Michael A. Robbins. 2014. Higher HDL Cholesterol Is Associated with Better Cognitive Function: the Maine-Syracuse Study. *Journal of the International Neuropsychological Society* 20:961–70.

Crowe M., Andel R., Pedersen N. L., Johansson B., Gatz M. Does participation in leisure activities lead to reduced risk of Alzheimer's disease? A prospective study of Swedish twins. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*. 2003;58(5):249–255.

Deckers K, Schievink SHJ, Rodriguez MMF, van Oostenbrugge RJ, van Boxtel MPJ, Verhey FRJ, Kohler S. Coronary heart disease and risk for cognitive impairment or dementia: systematic review and meta-analysis. *PLoS One*. 2017; 12:e0184244.

Dik MG, Jonker C, Comijs HC, Deeg DJ, Kok A, Yaffe K, et al. Contribution of metabolic syndrome components to cognition in older individuals. *Diabetes Care*. 2007;30(10):2655–60.

Dyall SC. Long-chain omega-3 fatty acids and the brain: a review of the independent and shared effects of EPA, DPA and DHA. *Front Aging Neurosci*. 2015;7:52. 2015; Apr 21.

El-Hattab AW, Zarante AM, Almannai M, Scaglia F. Therapies for mitochondrial diseases and current clinical trials. *Mol Genet Metab*. 2017 Nov;122(3):1-9

El Khoudary SR, Greendale G, Crawford SL, Avis NE, Brooks MM, Thurston RC, Karvonen-Gutierrez C, Waetjen LE, Matthews K. The menopause transition and women's health at midlife: a progress report from the Study of Women's Health Across the Nation (SWAN) *Menopause*. 2019;26:1213–1227.

Erickson K. I., Prakash R. S., Voss M. W., et al. Aerobic fitness is associated with hippocampal volume in elderly humans. *Hippocampus*. 2009;19(10):1030–1039.

Ernst E. The Risk-benefit Profile of Commonly Used Herbal Therapies: *Ginkgo*, St. John's Wort, Ginseng, Echinacea, Saw Palmetto, and Kava. *Ann Intern Med*. 2002;136:42–53.

Fernández-Portero C, Amián JG, de la Bella R, López-Lluch G, Alarcón D. Coenzyme Q10 levels associated to cognitive functioning and executive function in older adults. *J Gerontol A Biol Sci Med Sci*. 2022 Jul 31;glac152.

Ferreira A, Proença C, Serralheiro ML, Araújo ME. The in vitro screening for acetylcholinesterase inhibition and antioxidant activity of medicinal plants from Portugal. *J Ethnopharmacol*. 2006 Nov 3;108(1):31-7.

Ferris L. T., Williams J. S., Shen C. L. The effect of acute exercise on serum brain-derived neurotrophic factor levels and cognitive function. *Medicine and Science in Sports and Exercise*. 2007;39(4):728–734.

García-Carpintero S, Domínguez-Bértalo J, Pedrero-Prieto C, Frontiñán-Rubio J, Amo-Salas M, Durán-Prado M, García-Pérez E, Vaamonde J, Alcain FJ. Ubiquinol Supplementation Improves Gender-Dependent Cerebral Vasoreactivity and Ameliorates Chronic Inflammation and Endothelial Dysfunction in Patients with Mild Cognitive Impairment. *Antioxidants (Basel)*. 2021 Jan 20;10(2):143.

Giurgea, C & Salama, M. Nootropic drugs *Prog in Neuro-Psychopharmacology*, 1977; 1 3–4, (235-247)

Glade, M.J; Smith, K. Phosphatidylserine and the human brain. *Nutrition*, 2015; (31) 6- 781-786)

Graham EL, Clark JR, Orban ZS, Lim PH, Szymanski AL, Taylor C, DiBiase RM, Jia DT, Balabanov R, Ho SU, Batra A, Liotta EM, Korolnik IJ. Persistent neurologic symptoms and cognitive dysfunction in non-hospitalized Covid-19 "long haulers". *Ann Clin Transl Neurol*. 2021 May;8(5):1073-1085. doi: 10.1002/acn3.51350. Epub 2021 Mar 30. PMID: 33755344; PMCID: PMC8108421.

Gutierrez-Mariscal F.M., Yubero-Serrano E.M., Villalba J.M., Lopez-Miranda J. Coenzyme Q10: From bench to clinic in aging diseases, a translational review. *Crit. Rev. Food Sci. Nutr*. 2018

Haumann BR. Alternative sources for n-3 fatty acids. *Inform* 1998; 9: 1108]19

Hosking DE, et al., MIND not Mediterranean diet related to 12-year incidence of cognitive impairment in an Australian longitudinal cohort study. *Alzheimers Dement*, 2019. 15(4): p. 581–589.

Imanshahidi M, Hosseinzadeh H (2006) The pharmacological effects of salvia species on the central nervous system. *Phytother Res* 20:427–437

Johnson E.J. A Possible Role for Lutein and Zeaxanthin in Cognitive Function in the Elderly. *Am. J. Clin. Nutr.* 2012;96:1161S–1165S.

Jongkees BJ, Hommel B, Kühn S, Colzato LS. Effect of tyrosine supplementation on clinical and healthy populations under stress or cognitive demands--A review. *J Psychiatr Res.* 2015 Nov;70:50-7.

Kello N, Anderson E, Diamond B. Cognitive dysfunction in systemic lupus erythematosus: a case for initiating trials. *Arthritis Rheumatol.* 2019;71(9):1413–1425. doi: 10.1002/art.40933.

Kennedy DO. B Vitamins and the Brain: Mechanisms, Dose and Efficacy--A Review. *Nutrients.* 2016;8(2):68. Published 2016 Jan 27. doi:10.3390/nu8020068

Khandaker GM, Jones PB. Cognitive and functional impairment after severe sepsis. *JAMA.* 2011; 305: 673–674.

Kilpi F, Soares ALG, Fraser A, Nelson SM, Sattar N, Fallon SJ, Tilling K, Lawlor DA. Changes in six domains of cognitive function with reproductive and chronological ageing and sex hormones: a longitudinal study in 2411 UK mid-life women. *BMC Womens Health.* 2020;20:177.

Kohn M. L., Schooler C. The reciprocal effects of the substantive complexity of work and intellectual flexibility: a longitudinal assessment. *American Journal of Sociology.* 1978;84:24–52. doi: 10.1086/226739.

Kuboyama T et al., Neuritic regeneration and synaptic reconstruction induced by withanolide A. *Br J Pharmacol.* 2005;144(7):961-971. doi:10.1038/sj.bjp.0706122

Kure CE, Rosenfeldt FL, Scholey AB, et al. Relationships among cognitive function and cerebral blood flow, oxidative stress, and inflammation in older heart failure patients. *J Card Fail.* 2016;22:548–559.

Letenneur L, Proust-Lima C, Le Gouge A, Dartigues JF, Barberger-Gateau P. Flavonoid intake and cognitive decline over a 10-year period. *Am J Epidemiol.* 2007;165:1364–1371.

Li J, Abdel-Aal EM. Dietary Lutein and Cognitive Function in Adults: A Meta-Analysis of Randomized Controlled Trials. *Molecules.* 2021 Sep 24;26(19):5794.

Lim AS, Kowgier M, Yu L, Buchman AS, Bennett DA: Sleep fragmentation and the risk of incident Alzheimer's disease and cognitive decline in older persons. *Sleep* 2013;36:1027-1032.

Liu X, Morris MC, Dhana K, Ventrelle J, Johnson K, Bishop L, Hollings CS, Boulin A, Laranjo N, Stubbs BJ, Reilly X, Carey VJ, Wang Y, Furtado JD, Marcovina SM, Tangney C, Aggarwal NT, Arfanakis K, Sacks FM, Barnes LL. Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) study: Rationale, design and baseline characteristics of a randomized control trial of the MIND diet on cognitive decline. *Contemp Clin Trials.* 2021 Mar;102:106270.

Ma, C., Yin, Z., Zhu, P. et al. Blood cholesterol in late-life and cognitive decline: a longitudinal study of the Chinese elderly. *Mol Neurodegeneration* 12, 24 (2017).

Margetts G, Kleidonas S, Zaibi NS, Zaibi MS, Edwards KD. Evidence for anti-inflammatory effects and modulation of neurotransmitter metabolism by *Salvia officinalis* L. *BMC Complement Med Ther.* 2022 May 12;22(1):131.

Meade T, Manolios N, Cumming SR, Conaghan PG, Katz P. Cognitive Impairment in Rheumatoid Arthritis: A Systematic Review. *Arthritis Care Res (Hoboken)*. 2018 Jan;70(1):39-52. doi: 10.1002/acr.23243. PMID: 28371512.

Miller LS, Stephen M, Meghan B, Woodard JL, Davey A, Martin P, Poon LW, Jazwinski SM, Green RC, Gearing M et al. Cognitive performance in centenarians and the oldest old: norms from the Georgia Centenarian Study. *Neuropsychol Dev Cogn B Aging Neuropsychol Cogn*. 2010; 17: 575–90.

Miranda M, Morici JF, Zanoni MB, Bekinschtein P. Brain-Derived Neurotrophic Factor: A Key Molecule for Memory in the Healthy and the Pathological Brain. *Front Cell Neurosci*. 2019 Aug 7;13:363.

Morris MC, et al., Associations of vegetable and fruit consumption with age-related cognitive change. *Neurology*, 2006. 67(8): p. 1370–6.

Morris MC, et al., MIND diet score more predictive than DASH or Mediterranean diet scores *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 2014. 10(4): p. P166

Mortamais M., Portet F., Brickman A. M., et al. Education modulates the impact of white matter lesions on the risk of mild cognitive impairment and dementia. *The American Journal of Geriatric Psychiatry*. 2014;22(11):1336–1345.

Ng QX, Loke W, Foo NX, Tan WJ, Chan HW, Lim DY, et al. A Systematic Review of the Clinical Use of *Withania somnifera* (Ashwagandha) to Ameliorate Cognitive Dysfunction. *Phytother Res*. 2020;34:583–590.

Ngandu T., von Strauss E., Helkala E. L., et al. Education and dementia: what lies behind the association? *Neurology*. 2007;69(14):1442–1450.

Oken BS, Storzbach DM, Kaye JA. The Efficacy of *Ginkgo biloba* on Cognitive Function in Alzheimer Disease. *Arch Neurol*. 1998;55:1409–15.

Oláh C, Schwartz N, Denton C, Kardos Z, Putterman C, Szekanecz Z. Cognitive dysfunction in autoimmune rheumatic diseases. *Arthritis Res Ther*. 2020 Apr 15;22(1):78.

Pengelly A, Snow J, Mills SY, Scholey A, Wesnes K, Butler LR. Short-term Study on the Effects of Rosemary on Cognitive Function in an Elderly Population. *J Med Food*. 2012;15:10–7.

Penn H, Howie AJ, Kingdon EJ, Bunn CC, Stratton RJ, Black CM, Burns A, Denton CP. Scleroderma renal crisis: patient characteristics and long-term outcomes. *QJM*. 2007;100(8):485–494. doi: 10.1093/qjmed/hcm052.

Pennisi M, Lanza G, Cantone M, D'Amico E, Fisticaro F, Puglisi V, Vinciguerra L, Bella R, Vicari E, Malaguarnera G. Acetyl-L-Carnitine in Dementia and Other Cognitive Disorders: A Critical Update. *Nutrients*. 2020 May 12;12(5):1389.

Petersen RC, Lopez O, Armstrong MJ, et al.. Practice guideline update summary: mild cognitive impairment: report of the guideline development, dissemination, and implementation subcommittee of the American Academy of Neurology. *Neurology*. 2018;90(3):126–135. [Crossref](#). [PubMed](#).

Phillips C. Lifestyle Modulators of Neuroplasticity: How Physical Activity, Mental Engagement, and Diet Promote Cognitive Health during Aging. *Neural Plast*. 2017;2017:3589271.

Przybylak M, Grabowski J, Bidzan L. Cognitive functions and thyroid hormones secretion disorders. *Psychiatr Pol*. 2021 Apr 30;55(2):309-321. English, Polish. doi: 10.12740/PP/112470. Epub 2021 Apr 30. PMID: 34365481.

Rondanelli, Mariangela & Opizzi, Annalisa & Faliva, Milena & Mozzoni, Marco & Perna, Simone & Cazzola, Roberta & Savarè, Rita & Grossi, Enzo & Benvenuto, Cestaro.

(2011). Mild cognitive impairment in elderly and supplementation with omega 3 fatty acids, melatonin and tryptophan: A review. *Agro Food Industry Hi-Tech*. 22. 23-24.

Sarker MR, Franks SF. Efficacy of curcumin for age-associated cognitive decline: a narrative review of preclinical and clinical studies. *Geroscience*. 2018 Apr;40(2):73-95.

Schreiber S, Kampf-Sherf O, Gorfine M, Kelly D, Oppenheim Y, Lerer B. An open trial of plant-source derived phosphatidylserine for treatment of age-related cognitive decline. *Isr J Psychiatry Relat Sci*, 37 (2000), pp. 302-307

Shinohara M, Yamada M. [Drug-induced Cognitive Impairment]. *Brain Nerve*. 2016 Apr;68(4):421-8. Japanese. doi: 10.11477/mf.1416200415. PMID: 27056860.

Sierpina VS, Wollschlaeger B, Blumenthal M. Ginkgo biloba. *Am Fam Physician*. 2003;68:923–6.

Skvarc DR, Dean OM, Byrne LK, Gray L, Lane S, Lewis M, Fernandes BS, Berk M, Marriott A. The effect of N-acetylcysteine (NAC) on human cognition - A systematic review. *Neurosci Biobehav Rev*. 2017 Jul;78:44-56.

Smith AD, Smith SM, de Jager CA, Whitbread P, Johnston C, Agacinski G, Oulhaj A, Bradley KM, Jacoby R, Refsum H. Homocysteine-lowering by B vitamins slows the rate of accelerated brain atrophy in mild cognitive impairment: a randomized controlled trial. *PLoS One*. 2010 Sep 8;5(9):e12244.

Smith AD, Refsum H. Homocysteine, B Vitamins, and Cognitive Impairment. *Annu Rev Nutr*. 2016 Jul 17;36:211-39.

Smith G, Petersen RC, Parisi JE, et al. Definition, course, and outcome of mild cognitive impairment. *Aging Neuropsychol Cognit*. 1996;3:131–47.

Smith P. J., Blumenthal J. A., Hoffman B. M., et al. Aerobic exercise and neurocognitive performance: a meta-analytic review of randomized controlled trials. *Psychosomatic Medicine*. 2010;72(3):239–252.

Stough Con et al. CoQ10 and Cognition a Review and Study Protocol for a 90-Day Randomized Controlled Trial Investigating the Cognitive Effects of Ubiquinol in the Healthy Elderly. *Frontiers in Aging Neuroscience* 11;2019

Sullivan Mitchell E, Fugate Woods N. Midlife women's attributions about perceived memory changes: observations from the Seattle Midlife Women's Health Study. *J Womens Health Gend Based Med*. 2001;10:351–362.

Tangney CC, et al., Adherence to a Mediterranean-type dietary pattern and cognitive decline in a community population. *Am J Clin Nutr*, 2011. 93(3): p. 601–7.

Tangney C, et al., Accordance to Dietary Approaches to Stop Hypertension (DASH) is associated with slower cognitive decline. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 2013. 9(4): p. P135.

Tayebati SK, Amenta F. Choline-containing phospholipids: relevance to brain functional pathways. *Clin Chem Lab Med*. 2013 Mar 1;51(3):513-21.

Thomas P, Bhatia T, Gauba D, Wood J, Long C, Prasad K et al. Exposure to herpes simplex virus, type 1 and reduced cognitive function. *J Psychiatr Res*. 2013; 47: 1680–1685.

Tranah GJ, Blackwell T, Stone KL, Ancoli-Israel S, Paudel ML, Ensrud KE, Cauley JA, Redline S, Hillier TA, Cummings SR, Yaffe K; SOF Research Group: Circadian activity rhythms and risk of incident dementia and mild cognitive impairment in older women. *Ann Neurol* 2011;70:722-732.

Valls-Pedret C, Sala-Vila A, Serra-Mir M, Corella D, de la Torre R, Martínez-González MÁ, Martínez-Lapiscina EH, Fitó M, Pérez-Heras A, Salas-Salvadó J, Estruch R, Ros E. Mediterranean Diet and Age-Related Cognitive Decline: A Randomized Clinical Trial. *JAMA Intern Med*. 2015 Jul;175(7):1094-1103. doi:

10.1001/jamainternmed.2015.1668. Erratum in: JAMA Intern Med. 2018 Dec 1;178(12):1731-1732. PMID: 25961184.

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van Soest APM, van de Rest O, Witkamp RF, Cederholm T, de Groot LCPGM. DHA status influences effects of B-vitamin supplementation on cognitive ageing: a post-hoc analysis of the B-proof trial. *Eur J Nutr.* 2022 Oct;61(7):3731-3739.

Verghese J., Lipton R. B., Katz M. J., et al. Leisure activities and the risk of dementia in the elderly. *The New England Journal of Medicine.* 2003;348(25):2508–2516.

Wolf PA. Contributions of the Framingham Heart Study to stroke and dementia epidemiologic research at 60 years. **Arch Neurol.** 2012; 69:567–571.

Yarrow J. F., White L. J., McCoy S. C., Borst S. E. Training augments resistance exercise induced elevation of circulating brain derived neurotrophic factor (BDNF) *Neuroscience Letters.* 2010;479(2):161–165.

Zilliox LA, Chadrsekaran K, Kwan JY, Russell JW. Diabetes and Cognitive Impairment. *Curr Diab Rep.* 2016 Sep;16(9):87.