

USHBC Supported Studies

Antioxidant Activity

- Blacker BC, Snyder SM, Eggett DI, Parker TI. **Consumption of blueberries with a high-carbohydrate, low-fat breakfast decreases postprandial serum markers of oxidation.** *British Journal of Nutrition.* 2013, 109:1670-1677*
[Abstract](#)

Bioavailability/Metabolism

- Koh J, Xu Z, Wicker L. **Blueberry Pectin and Increased Anthocyanins Stability Under in Vitro Digestion.** *Food Chem.* 2020, 302:125343*
[Abstract](#)
- Lin Z, Pattathil S, Hahn MG, Wicker L. **Blueberry cell wall fractionation, characterization and glycome profiling.** *Food Hydrocolloids.* 2019, 90:385-393.*
[Abstract](#)
- Koh J, Xu Z, Wicker L. **Blueberry pectin extraction methods influence physico-chemical properties.** *Journal of Food Science,* 2018, 83:2954-2962.*
[Abstract](#)
- Lin Z, Fischer J, Wicker L. **Intermolecular binding of blueberry pectin-rich fractions and anthocyanin.** *Food Chem.* 2016, 194:986-993.*
[Abstract](#)
- Hanley MJ, Masse G, Harmatz JS, Cancalon PF, Dolnikowski GG, Court MH, Greenblatt DJ. **Effect of blueberry juice on clearance of buspirone and flurbiprofen in human volunteers.** *British Journal of Clinical Pharmacology.* 2012, 75:1041-1052.
[Abstract](#)
- Milbury PE, Kalt W. **Xenobiotic metabolism and berry flavonoid transport across the blood-brain barrier.** *Journal of Agricultural and Food Chemistry.* 2010, 58:3950-3956
[Abstract](#)
- Kalt W, Blumberg JB, McDonald JE, Vinqvist-Tymchuk MR, Fillmore SAE, Graf BA, O'Leary JM, Milbury PE. **Identification of anthocyanins in the liver, eye, and brain of blueberry-fed pigs.** *Journal of Agricultural and Food Chemistry.* 2008; 56:705-12.
[Abstract](#)

Bone and Joint Health

- Devareddy L, Hooshmand S, Collins JK, Lucas EA, Chai SC, Arjmandi BH. **Blueberry prevents bone loss in ovariectomized rat model of postmenopausal osteoporosis.** *Journal of Nutritional Biochemistry.* 2008; 19:694-699
[Abstract](#)

Brain Function

- Krikorian R, Skelton MR, Summer SS, Shidler MD, Sullivan PG. **Blueberry Supplementation in Midlife for Dementia Risk Reduction.** *Nutrients.* 2022;14(8):1619.
[Abstract](#)
- Rutledge GA, Sandhu AK, Miller MG, Edirisinghe I, Burton-Freeman BB, **Shukitt-Hale B. Blueberry phenolics are associated with cognitive enhancement in supplemented healthy older adults.** *Food & Function.* 2021; 12:107-118.
[Abstract](#)
- Krikorian R, Kalt W, McDonald JE, Shidler MD, Summer SS, Stein AL. **Cognitive performance in relation to urinary anthocyanins and their flavonoid-based products following blueberry supplementation in older adults at risk for dementia.** *Journal of Functional Foods.* 2020, 64:103667.
[Abstract](#)
- Shukitt-Hale B, Thangthaeng N, Miller MG, Poulouse SM, Carey AN, Fisher DR. **Blueberries improve neuroinflammation and cognition differentially depending on individual cognitive baseline status.** *J Gerontol A Biol Sci Med Sci.* 2019, 74:977-983.*
[Abstract](#)
- Krishna G, Ying Z, **Gomez-Pinilla F. Blueberry supplementation mitigates altered brain plasticity and behavior after traumatic brain injury in rats.** *Molecular Nutrition and Food Research.* 2019, 63:e1801055.
[Abstract](#)
- **Carey AN, Gildawie KR, Rovnak A, Thangthaeng N, Fisher DR, Shukitt-Hale B. Blueberry supplementation attenuates microglia activation and increases neuroplasticity in mice consuming a high-fat diet.** *Nutritional Neuroscience.* 2019, 22:253-263.
[Abstract](#)
- Boespflug EL, Eliassen JC, Dudley JA, Shidler MD, Kalt W, Summer SS, Stein AL, Stover AN, **Krikorian R. Enhanced neural activation with blueberry supplementation in mild cognitive impairment.** *Nutritional Neuroscience.* 2018, 21:297-305.
[Abstract](#)
- Miller MG, Hamilton DA, Joseph JA, **Shukitt-Hale B. Dietary blueberry improves cognition among older adults in a randomized, double-blind, placebo-controlled trial.** *European Journal of Nutrition.* 2018, 57:1169-1180.
[Abstract](#)
- McNamara RK, Kalt W, Shidler MD, McDonald J, Summer SS, Stein AL, Stover AN, **Krikorian R. Cognitive response to fish oil, blueberry, and combined supplementation in older adults with subjective cognitive impairment.** *Neurobiology of Aging.* 2018, 64:147-156.*
[Abstract](#)
- Poulouse SM, Rabin BM, Bielinski DF, Kelly ME, Miller MG, Thanthang N, Shukitt-Hale B. **Neurochemical differences in learning and memory paradigms among rats supplemented with anthocyanin-rich blueberry diets and exposed to acute doses of ⁵⁶Fe particles.** *Life Sciences in Space Research.* 2017, 12:16-23*
[Abstract](#)
- Ebenezer PJ, Wilson CB, Wilson LD, Nair AR, **Francis J. The anti-inflammatory effects of blueberries in an animal model of post-traumatic stress disorder (PTSD).** *PLoS One* 2016, 11:e0180923.
[Abstract](#)

- **Carey AN, Gomes SM, Shukitt-Hale B. Blueberry supplementation improves memory in middle-aged mice fed a high-fat diet.** *Journal of Agricultural and Food Chemistry*. 2014,62:3972-3978.
[Abstract](#)
- Shukitt-Hale B. **Blueberries and neuronal aging.** *Gerontology*. 2012, 58:518-523.
[Abstract](#)
- **McGuire SO, Sortwell CE, Shukitt-Hale B, Joseph JA, Hejna MJ, Collier TJ. Dietary supplementation with blueberry extract improves survival of transplanted dopamine neurons.** *Nutritional Neuroscience*. 2006; 9:251-258.
[Abstract](#)
- **Vega Custodio S, Spohr L, Bona NP, de Souza AA, de Moraes Meine B, Keske S, Luduvico KP, Lavez FL, Spanevello RM, Stefanello FM, Soares MSP. Effect of blueberry (Vaccinium virgatum) extract on depressive-like behavior and metabolic serum alterations in lipopolysaccharide-challenged mice.** *J Food Biochem*. 2021; 45:e13920
[Abstract](#)
- **Bell L, Williams CM. Blueberry benefits to cognitive function across the lifespan.** *Int J Food Sci Nutr*. 2021; 72:650-652.
[Abstract](#)

Cancer

- Aqil F, Jeyabalan J, Kausar H, Radha Munagala R, Singh IP, **Gupta R. Lung cancer inhibitory activity of dietary berries and berry polyphenolics.** *Journal of Berry Research*. 2016, 6:105-114.
[Abstract](#)
- Jeyabalan J, Aqil F, Munagala R, Annamalai L, Vadhanam MV, **Gupta RC. Chemopreventive and therapeutic activity of dietary blueberry against estrogen-mediated breast cancer.** *Journal of Agricultural and Food Chemistry*. 2014, 62:3963-3971,
[Abstract](#)
- Kanaya N, Adams L Takasaki A, **Chen S. Whole blueberry powder inhibits metastasis of triple negative breast cancer in a xenograft mouse model through modulation of inflammatory cytokines.** *Nutrition and Cancer*. 2014, 66:242-248.
[Abstract](#)
- **Adams LS, Kanaya N, Phung S, Liu Z, Chen S. Whole blueberry powder modulates the growth and metastasis of MDA-MB-231 triple negative breast tumors in nude mice.** *Journal of Nutrition* 2011, 141:1805-1812.
[Abstract](#)

Cardiovascular/Lipids

- Curtis, PJ, Berends, L, van der Velpen, V, Jennings, A, Haag, L, Chandra, P, Kay, CD, Rimm, EB, Cassidy, A. **Blueberry anthocyanin intake attenuates the postprandial cardiometabolic effect of an energy-dense food challenge: results from a double blind, randomized controlled trial in metabolic syndrome participants.** *Clin Nutr*. 2022 Jan 1;41(1):165-176.
[Abstract](#)
- Curtis PJ, van der Velpen V, Berends L, Jennings A, Feelisch M, Umpleby AM, Evans M, Fernandez BO, Meiss MS, Minnion M, Potter J, Minihane AM, Kay CD, **Rimm EB, Cassidy A. Blueberries improve biomarkers of cardiometabolic function in participants with metabolic syndrome-results from a 6-month, double-blind, randomized controlled trial.** *The American Journal of Clinical Nutrition*. 2019, 109:1535-1545.

[Abstract](#)

- Johnson SA, Feresin RG, Navaei N, Figueroa A, Elam ML, Akhavan NS, Hooshmand S, Pourafshar S, Payton ME, Arjmandi BH. **Effects of daily blueberry consumption on circulating biomarkers of oxidative stress, inflammation, and antioxidant defense in postmenopausal women with pre- and stage 1-hypertension: a randomized controlled trial.** *Food and Function*. 2017, 8:373-380.

[Abstract](#)

Composition

- Sun Y, Li M, Mitra S, Muhammad RH, Debnath B, Lu X, Jian H, Qiu D. **Comparative phytochemical profiles and antioxidant enzyme activity analyses of the southern highbush blueberry (*Vaccinium corymbosum*) at different developmental stages.** *Molecules*. 2018; 23:2209.

[Abstract](#)

- Johnson SA, Figueroa A, Navaei N, Wong A, Kalfon R, Ornsbee LT, Feresin RG, Elam MI, Hooshmand S, Payton ME, Arjmandi BH. **Daily blueberry consumption improves blood pressure and arterial stiffness in postmenopausal women with pre- and stage 1-hypertension: A randomized, double-blind, placebo-controlled clinical trial.** *Journal of the Academy of Nutrition and Dietetics*. 2015, 115:369-377.

[Abstract](#)

- Stull AJ, Cash KC, Champagne CM, Gupta AK, Boston R, Beyl RA, Johnson WD, Cefalu WT. **Blueberries improve endothelial function, but not blood pressure, in adults with metabolic syndrome: A randomized, double-blind, placebo-controlled clinical trial.** *Nutrients* 2015, 7:4107-4123.

[Abstract](#)

- McAnulty LS, Collier SR, Landram MJ, Whittaker DS, Isaacs SE, Klemka JM, Cheek SL, Arms JC, McAnulty SR. **Six weeks daily ingestion of whole blueberry powder increases natural killer cell counts and reduces arterial stiffness in sedentary males and females.** *Nutrition Research*. 2014, 34:577-584.

[Abstract](#)

- Basu A, Du M, Leyva MJ, Sanchez K, Betts NM, Wu M, Aston CF, Lyons TJ. **Blueberries decrease cardiovascular risk factors in obese men and women with metabolic syndrome.** *Journal of Nutrition*. 2010, 140:1582-1587.

[Abstract](#)

- Kalt W, Foote K, Fillmore SAE, Lyon M, Van Lunen TA, McRae KB. **Effect of blueberry feeding on plasma lipids in pigs.** *British Journal of Nutrition*. 2008; 100:70-78.

[Abstract](#)

Diabetes/Insulin Resistance

- Curtis, PJ, Berends, L, van der Velpen, V, Jennings, A, Haag, L, Chandra, P, Kay, CD, Rimm, EB, Cassidy, A. **Blueberry anthocyanin intake attenuates the postprandial cardiometabolic effect of an energy-dense food challenge: results from a double blind, randomized controlled trial in metabolic syndrome participants.** *Clin Nutr*. 2022 Jan 1;41(1):165-176.

[Abstract](#)

- Stote KS, Wilson MM, Hallenbeck D, Thomas K, Rourke JM, Sweeney MI, Gottschall-Pass KT, Gosmanov AR. **Effect of blueberry consumption on cardiometabolic health parameters in men with type 2 diabetes: an 8-week, double-blind, randomized, placebo-controlled trial.** *Curr Dev Nutr*. 2020, 4:1-10.

[Abstract](#)

- Liu W, Mao Y, Schoenborn J, Wang Z, Tang G, Tang X. **Whole blueberry protects pancreatic beta-cells in diet-induced obese mouse.** *Nutr & Metab*. 2019, 16:34.

[Abstract](#)

- Elks CM, Terrebonne JD, Ingram DK, Stephens JM. **Blueberries improve glucose tolerance without altering body composition in obese postmenopausal mice.** *Obesity* 2015, 23:573-580.*
[Abstract](#)
- Seymour EM, Tanone II, Urcuyo-Llanes DE, Lewis SK, Kirakosyan A, Kondoleon MG, Kaufman PB, **Bolling SF. Blueberry intake alters skeletal muscle and adipose tissue peroxisome proliferator-activated receptor activity and reduces insulin resistance in obese rats.** *Journal of Medicinal Food.* 2011, 14:1511-1518.
[Abstract](#)
- Stull AJ, Cash KC, Johnson WD, Champagne CM, **Cefalu WT. Bioactives in blueberries improve insulin sensitivity in obese, insulin-resistant men and women.** *Journal of Nutrition.* 2010, 140:1764-1768.
[Abstract](#)
- DeFuria J, Bennett G, Strissel KJ, Perfield JW II, Milbury PE, Greenberg AS, **Obin MS. Dietary blueberry attenuates whole-body insulin resistance in high fat-fed mice by reducing adipocyte death and its inflammatory sequelae.** *Journal of Nutrition.* 2009; 139:1510-1516.
[Abstract](#)

Exercise/Muscle

- **Brandenburg JP, Giles LV. Blueberry supplementation reduces the blood lactate response to running in normobaric hypoxia but has no effect on performance in recreational runners.** *Journal of the International Society of Sports Nutrition.* 2021; 18:26.
[Abstract](#)
- **Avendano EE and Raman G. Blueberry consumption and exercise: Gap analysis using evidence mapping.** *Journal of Alternative and Complementary Medicine.* 2021, 27:3-11.
[Abstract](#)
- **Blum JE, Gheller BJ, Hwang S, Bender E, Cheller M, Thalacker-Mercer AE. Consumption of a blueberry-enriched diet by women for 6 weeks alters determinants of human muscle progenitor cell function.** *Journal of Nutrition.* 2020, 150:2412-2418.
[Abstract](#)
- **Brandenburg JP and Giles LV. Four days of blueberry powder supplementation lowers the blood lactate response to running but has no effect on time-trial performance.** *International Journal of Sports Nutrition and Exercise Metabolism.* 2019; 29:636-642.
[Abstract](#)
- **McAnulty LS, Nieman DC, Dumke CL, Shooter LA, Henson DA, Utter AC, Milne G, McAnulty SR. Effect of blueberry ingestion on natural killer cell counts, oxidative stress, and inflammation prior to and after 2.5 h of running.** *Applied Physiology, Nutrition, and Metabolism* 2011, 36:976-984.
[Abstract](#)

Eye Health

- Tremblay F, Waterhouse J, Nason J, **Kalt W. Prophylactic neuroprotection by blueberry-enriched diet in a rat model of light-induced retinopathy.** *Journal of Nutritional Biochemistry* 2013, 24:647-655.
[Abstract](#)

Food Safety

- Bialka KI, Demirci A. **Decontamination of Escherichia coli 0157:H7 and Salmonella enterica on blueberries using ozone and pulsed UV-light.** *Journal of Food Science.* 2007, 72:M391-396.
[Abstract](#)
- Popa I, Hanson EJ, Todd ECD, Schilder AC, Ryser ET. **Efficacy of chlorine dioxide gas sachets for enhancing the microbiological quality and safety of blueberries.** *Journal of Food Protection* 2007, 70:2084-2088.
[Abstract](#)

Gut Health

- Ntemiri A, Ghosh TS, Gheller ME, Tran TT, Blum JE, Pellanda P, Vickova K, Neto MC, Howell A, Thalacker-Mercer A, O'Toole PW. **Whole blueberry and isolated polyphenol-rich fractions modulate specific gut microbes in an in vitro colon model and in a pilot study in human consumers.** *Nutrients.* 2020, 12:E2800.
[Abstract](#)
- Morisette A, Kropp C, Songpadith JP, Junges Moreira R, Costa J, Marine Casado R, Pilon G, Varin TV, Dudonne S, Boutekrabt L, St-Pierre P, Levy E, Roy D, Desjardins Y, Raymond F, Houde VP, Marette A. **Blueberry proanthocyanidins and anthocyanins improve metabolic health through a gut microbiota-dependent mechanism in diet-induced obese mice.** *Am J Physiol Endocrinol Metab.* 2020; 318:E965-E980.
[Abstract](#)
- Polewski MA, Esquivel-Alvarado D, Wedde Ns, Kruger CG, Reed JD. **Isolation and characterization of blueberry polyphenolic components and their effects on gut barrier dysfunction.** *J Agric Food Chem.* 2020; 68:2940-2947.
[Abstract](#)
- Ivey KL, Chan AT, Izard J, Cassidy A, Rogers GB, Rimm EB. **Role of dietary flavonoid compounds in driving patterns of microbial community assembly.** *mBio.* 2019; 10:e01205-19.
[Abstract](#)
- Lee S, Keirse KI, Kirkland R, Grunewald ZI, Fischer JG, de La Serre CB. **Blueberry supplementation influences the gut microbiota, inflammation, and insulin resistance in high-fat-diet-fed rats.** *Journal of Nutrition* 2018; 148:209-219.*
[Abstract](#)
- Teixeira LD, Lamberti MFT, DeBose-Scarlett E, Bahadiroglu E, Garrett TJ, Gardner CL, Meyer JL, Lorca GL, Gonzalez CF. **Lactobacillus johnsonii N6.2 and blueberry phytochemicals affect lipidome and gut microbiota composition of rats under high-fat diet.** *Front Nutr.* 2021; 8:757256.
[Abstract](#)

Immune Function

- Rousseau M, Horne J, Guenard F, de Toro-Martin J, Garneau V, Guay V, Kearney M, Pilon G, Roy D, Couture P, Couillard C, Marette A, Vohl M-C. **An 8-week freeze-dried blueberry supplement impacts immune-related pathways: a randomized, double-blind placebo-controlled trial.** *Genes & Nutrition* 2021; 16:7.
[Abstract](#)
- Lewis ED, Ren Z, DeFuria J, Obin MS, Meydani SN, Wu D. **Dietary supplementation with blueberry partially restores T-cell-mediated function in high-fat-diet-induced obese mice.** *British Journal of Nutrition* 2018, 119:1393-1399.*
[Abstract](#)

*Publication was not directly funded, but USHBC freeze-dried blueberry powder was provided at no cost
List of Published Studies as of 10/18/2022

- Nair AR, Mariappan N, Stull AJ, **Francis J. Blueberry supplementation attenuates oxidative stress within monocytes and modulates immune cell levels in adults with metabolic syndrome: a randomized, double-blind, placebo-controlled trial.** *Food and Function.* 2017; 8:4118-4128.
[Abstract](#)

Inflammation

- South S, Lucero J, Vijayagopal P, Juma S. **Anti-inflammatory action of blueberry polyphenols in HIG-82 rabbit synoviocytes.** *J Med Food.* 2019, 22:1032-1040. *
[Abstract](#)
- Du C, Smith A, Avalos M, South S, Crabtree K, Wang W, Kwon Y, Vijayagopal P, **Juma S. Blueberries improve pain, gait performance, and inflammation in individuals with symptomatic knee osteoarthritis.** *Nutrients.* 2019; 11:E290.
[Abstract](#)
- Ono-Moore KD, Snodgrass RG, Huang S, Singh S, Freytag TI, Burnett DJ, Bonnel EI, Woodhouse LR, Zunino SJ, Peerson JM, Lee JY, Rutledge JC, **Hwang DH. Postprandial inflammatory responses and free fatty acids in plasma of adults who consumed a moderately high-fat breakfast with and without blueberry powder in a randomized placebo-controlled trial.** *Journal of Nutrition* 2016, 146:1411-1419.
[Abstract](#)
- Xin, J, Feinstein DI, Heyna MJ, Lorens SA, **McGuire SO. Beneficial effects of blueberries in experimental autoimmune encephalomyelitis.** *Journal of Agricultural and Food Chemistry.* 2012, 60:5743-5748.
[Abstract](#)

Obesity

- Moghe SS, Juma S, Imrhan V, **Vijayagopal P. Effect of blueberry polyphenols on 3T3-F442A preadipocyte differentiation.** *Journal of Medicinal Food.* 2012, 15:448-452
[Abstract.](#)

Oral Health

- Lagha AB, LeBel G, **Grenier D. Dual action of highbush blueberry proanthocyanidins on *Aggregatibacter actinomycetemcomitans* and the host inflammatory response.** *BMC Complement Altern Med.* 2018; 18:10.
[Abstract](#)
- Lagha AB, Howell A, **Grenier D. Highbush blueberry proanthocyanidins alleviate *Porphyromonas gingivalis*-induced deleterious effects on oral mucosal cells.** *Anaerobes.* 2020, 65:102266
[Abstract](#)

Reviews

- Kalt W, Cassidy A, Howard LR, Krikorian R, Stull AJ, Tremblay F, Zamora-Ros R. **Recent research on the health benefits of blueberries and their anthocyanins.** *Advances in Nutrition.* 2019.
[Abstract](#)