

## 5. REFERENCES

- Abe, L. T., Lajolo, F. M., & Genovese, M. I. (2012). Potential dietary sources of ellagic acid and other antioxidants among fruits consumed in Brazil: Jaboticaba (*Myrciaria jaboticaba* (Vell.) Berg). *Journal of the Science of Food and Agriculture*, 92(8), 1679–1687. <https://doi.org/10.1002/jsfa.5531>
- Aebi, H. (1974). Catalase. In H. U. Bergmeyer (Ed.), *Methods of Enzymatic Analysis* (Vol. 2, pp. 673–684). <https://doi.org/10.1086/330448>
- Ajouz, H., Mukherji, D., & Shamseddine, A. (2014). Secondary bile acids: An underrecognized cause of colon cancer. *World Journal of Surgical Oncology*, Vol. 12. <https://doi.org/10.1186/1477-7819-12-164>
- Alam, M. T., Amos, G. C. A., Murphy, A. R. J., Murch, S., Wellington, E. M. H., & Arasaradnam, R. P. (2020). Microbial imbalance in inflammatory bowel disease patients at different taxonomic levels. *Gut Pathogens*, Vol. 12. <https://doi.org/10.1186/s13099-019-0341-6>
- Alezandro, M. R., Granato, D., & Genovese, M. I. (2013). Jaboticaba (*Myrciaria jaboticaba* (Vell.) Berg), a Brazilian grape-like fruit, improves plasma lipid profile in streptozotocin-mediated oxidative stress in diabetic rats. *Food Research International*, 54(1), 650–659. <https://doi.org/10.1016/j.foodres.2013.07.041>
- Anwar, S., Fratantonio, D., Ferrari, D., Saija, A., Cimino, F., & Speciale, A. (2016). Berry anthocyanins reduce proliferation of human colorectal carcinoma cells by inducing caspase-3 activation and p21 upregulation. *Molecular Medicine Reports*, Vol. 14, pp. 1397–1403. <https://doi.org/10.3892/mmr.2016.5397>
- Asano, I., Ikeda, Y., Fujii, S., & Iino, H. (2004). Effects of Mannooligosaccharides from Short Chain Fatty Acids in Rat Cecum. *Food Science and Technolog*, 10(3), 273–277. <https://doi.org/10.3136/fstr.10.273>
- Aura, A. M., Martin-Lopez, P., O’Leary, K. A., Williamson, G., Oksman-Caldentey, K. M., Poutanen, K., & Santos-Buelga, C. (2005). In vitro metabolism of anthocyanins by human gut microflora. *European Journal of Nutrition*, Vol. 44, pp. 133–142. <https://doi.org/10.1007/s00394-004-0502-2>
- Beaugerie, L., & Itzkowitz, S. H. (2015). Cancers complicating inflammatory bowel disease. *New England Journal of Medicine*, Vol. 372, pp. 1441–1452. <https://doi.org/10.1056/NEJMra1403718>
- Bergman, E. N. (1990). Energy contributions of volatile fatty acids from the gastrointestinal tract in various species. *Physiological Reviews*, 70(2), 567–590. <https://doi.org/10.1152/physrev.1990.70.2.567>
- Bialonska, D., Ramnani, P., Kasimsetty, S. G., Muntha, K. R., Gibson, G. R., & Ferreira, D. (2010). The influence of pomegranate by-product and punicalagins on selected groups of human intestinal microbiota. *International Journal of Food Microbiology*, Vol. 140, pp. 175–182. <https://doi.org/10.1016/j.ijfoodmicro.2010.03.038>
- Bird, R. P. (1987). Observation and quantification of aberrant crypts in the murine colon treated with a colon carcinogen: Preliminary findings. *Cancer Letters*, Vol. 37, pp. 147–151. [https://doi.org/10.1016/0304-3835\(87\)90157-1](https://doi.org/10.1016/0304-3835(87)90157-1)
- Bird, R. P., & Good, C. K. (2000). The significance of aberrant crypt foci in understanding the pathogenesis of colon cancer. *Toxicology Letters*, 112–113, 395–402. [https://doi.org/10.1016/S0378-4274\(99\)00261-1](https://doi.org/10.1016/S0378-4274(99)00261-1)
- Brower, M., Grace, M., Kotz, C. M., & Koya, V. (2015). Comparative analysis of growth characteristics of Sprague Dawley rats obtained from different sources. *Laboratory Animal Research*, Vol. 31, p. 166. <https://doi.org/10.5625/lar.2015.31.4.166>
- Bueno, J. M., Sáez-plaza, P., Ramos-escudero, F., Maria, A., Fett, R., Asuero, A. G., ...

- Asuero, A. G. (2012). *Critical Reviews in Analytical Chemistry Analysis and Antioxidant Capacity of Anthocyanin Pigments . Part II: Chemical Structure , Color , and Intake of Anthocyanins Analysis and Antioxidant Capacity of Anthocyanin Pigments . Part II: Chemical Structure* (pp. 37–41). pp. 37–41. <https://doi.org/10.1080/10408347.2011.632314>
- Busche, R., Mass, R., Reale, E., Luciano, L., & Engelhardt, W. V. (1996). Lack of butyrate is associated with induction of bax and subsequent apoptosis in the proximal colon of guinea pig. *Biochemical Society Transactions*, Vol. 24. <https://doi.org/10.1042/bst024574s>
- Butler, R. N., Topping, D. L., Illman, R. J., Goland, G. J., Lawson, M. J., & Roberts-Thomson, I. C. (1990). Effects of starvation-refeeding on volatile fatty acid distribution in the large bowel of the rat. *Nutrition Research*, 10(1), 91–98. [https://doi.org/10.1016/S0271-5317\(05\)80769-9](https://doi.org/10.1016/S0271-5317(05)80769-9)
- Calvert, P., Yao, K. S., Hamilton, T. C., & O'Dwyer, P. J. (1998). Clinical studies of reversal of drug resistance based on glutathione. *Chemico-Biological Interactions*, Vol. 111–112, pp. 213–224. [https://doi.org/10.1016/S0009-2797\(98\)00008-8](https://doi.org/10.1016/S0009-2797(98)00008-8)
- Cand, F., & Verdetti, J. (1989). Superoxide dismutase, glutathione peroxidase, catalase, and lipid peroxidation in the major organs of the aging rats. *Free Radical Biology and Medicine*, Vol. 7, pp. 59–63. [https://doi.org/10.1016/0891-5849\(89\)90101-9](https://doi.org/10.1016/0891-5849(89)90101-9)
- Cani, P. D., Bibiloni, R., Knauf, C., Waget, A., Neyrinck, A. M., Delzenne, N. M., & Burcelin, R. (2008). Changes in gut microbiota control metabolic endotoxemia-induced inflammation in high-fat diet-induced obesity and diabetes in mice. *Diabetes*, Vol. 57, pp. 1470–1481. <https://doi.org/10.2337/db07-1403>
- Cardona, F., Andrés-lacueva, C., Tulipani, S., Tinahones, F. J., & Queipo-ortuño, M. I. (2013). Benefits of polyphenols on gut microbiota and implications in human health. *The Journal of Nutritional Biochemistry*, 24(8), 1415–1422. <https://doi.org/10.1016/j.jnutbio.2013.05.001>
- Carretero, J., Obrador, E., Anasagasti, M., Martin, J., Vidal-Vanaclocha, F., & Estrela, J. (1999). Growth-associated changes in glutathione content correlate with liver metastatic activity of B16 melanoma cells. *Clinical and Experimental Metastasis*, 17, 567–574. <https://doi.org/10.1023/A:1006725226078>
- Cavalcanti, R. N., Santos, D. T., & Meireles, M. A. A. (2011). Non-thermal stabilization mechanisms of anthocyanins in model and food systems-An overview. *Food Research International*, Vol. 44, pp. 499–509. <https://doi.org/10.1016/j.foodres.2010.12.007>
- Cavigelli, S. A., Michael, K. C., & Ragan, C. M. (2013). Behavioral, Physiological and Health Biases in Laboratory Rodents. In *Animal Personalities: Behavior, Physiology and Evolution* (pp. 441–498). Retrieved from <https://books.google.co.id/books?id=5bOC3Ny6l-8C&dq=Behavioral,+Physiological+and+Health+Biases+in+Laboratory+Rodents>
- Chen, C. C., Chen, K. J., Kong, M. S., Chang, H. J., & Huang, J. L. (2016). Alterations in the gut microbiotas of children with food sensitization in early life. *Pediatric Allergy and Immunology*, Vol. 27, pp. 254–262. <https://doi.org/10.1111/pai.12522>
- Chen, L., Jiang, B., Zhong, C., Guo, J., Zhang, L., Mu, T., ... Bi, X. (2018). Chemoprevention of colorectal cancer by black raspberry anthocyanins involved the modulation of gut microbiota and SFRP2 demethylation. *Carcinogenesis*, 39(3), 471–481. <https://doi.org/10.1093/carcin/bgy009>
- Cherrington, C. A., Hinton, M., Pearson, G. R., & Chopra, I. (1991). Short-chain organic acids at pH 5.0 kill Escherichia coli and Salmonella spp. without causing membrane perturbation. *Journal of Applied Bacteriology*, Vol. 70, pp. 161–165. <https://doi.org/10.1111/j.1365-2672.1991.tb04442.x>
- Chumpitazi, B. P., Hollister, E. B., Oezguen, N., Tsai, C. M., McMeans, A. R., Luna, R. A.,

- ... Shulman, R. J. (2014). Gut microbiota influences low fermentable substrate diet efficacy in children with irritable bowel syndrome. *Gut Microbes*, Vol. 5. <https://doi.org/10.4161/gmic.27923>
- Cooke, D., Schwarz, M., Boocock, D., Winterhalter, P., Steward, W. P., Gescher, A. J., & Marczylo, T. H. (2006). Effect of cyanidin-3-glucoside and an anthocyanin mixture from bilberry on adenoma development in the ApcMin mouse model of intestinal carcinogenesis - Relationship with tissue anthocyanin levels. *International Journal of Cancer*, Vol. 119, pp. 2213–2220. <https://doi.org/10.1002/ijc.22090>
- Corpet, D. E., & Taché, S. (2002). Most effective colon cancer chemopreventive agents in rats: A systematic review of aberrant crypt foci and tumor data, ranked by potency. *Nutrition and Cancer*, Vol. 43, pp. 1–21. [https://doi.org/10.1207/S15327914NC431\\_1](https://doi.org/10.1207/S15327914NC431_1)
- Cuevas-Ramos, G., Petit, C., Marcq, I., Boury, M., Oswald, E., & Nougayrede, J.-P. (2010). Escherichia coli induces DNA damage in vivo and triggers genomic. *Proc Natl Acad Sci USA*, 107(25), 11537–11542. Retrieved from [www.jstor.org/stable/20724103](http://www.jstor.org/stable/20724103).
- Cummings, J. H. (1981). Short chain fatty acids in the human colon. *Gut*, Vol. 22, pp. 763–779. <https://doi.org/10.1136/gut.22.9.763>
- Dai, J., Gupte, A., Gates, L., & Mumper, R. J. (2009). A comprehensive study of anthocyanin-containing extracts from selected blackberry cultivars: Extraction methods, stability, anticancer properties and mechanisms. *Food and Chemical Toxicology*, 47(4), 837–847. <https://doi.org/10.1016/j.fct.2009.01.016>
- De Almeida, C., Lulli, M., di Pilato, V., Schiavone, N., Russo, E., Nannini, G., ... Amedei, A. (2019). Differential Responses of Colorectal Cancer Cell Lines to Enterococcus faecalis' Strains Isolated from Healthy Donors and Colorectal Cancer Patients. *Journal of Clinical Medicine*, Vol. 8, p. 388. <https://doi.org/10.3390/jcm8030388>
- De Morgan, C. (1871). on the Origin of Cancer. *The Lancet*, Vol. 98, pp. 41–42. [https://doi.org/10.1016/S0140-6736\(02\)77132-8](https://doi.org/10.1016/S0140-6736(02)77132-8)
- Den Besten, G., Van Eunen, K., Groen, A. K., Venema, K., Reijngoud, D. J., & Bakker, B. M. (2013). The role of short-chain fatty acids in the interplay between diet, gut microbiota, and host energy metabolism. *Journal of Lipid Research*, 54(9), 2325–2340. <https://doi.org/10.1194/jlr.R036012>
- Donohoe, D. R., Garge, N., Zhang, X., Sun, W., O'Connell, T. M., Bunger, M. K., & Bultman, S. J. (2011). The microbiome and butyrate regulate energy metabolism and autophagy in the mammalian colon. *Cell Metabolism*, 13(5), 517–526. <https://doi.org/10.1016/j.cmet.2011.02.018>
- dos Reis, S. O., da Luz, T. C., da Silva Couto, C. V. M., Dalbó, J., Nunes, L. de C., Martins, M. C., ... Trivilin, L. O. (2019). Juçara (*Euterpe edulis* Mart.) Supplementation Reduces Aberrant Crypt Foci and Increases SOD1 Expression in the Colorectal Mucosa of Carcinogenesis-Induced Rats. *Nutrition and Cancer*, 0(0), 1–10. <https://doi.org/10.1080/01635581.2019.1649437>
- Dringen, R. (2009). Neuron-Glia Coupling in Glutathione Metabolism. In *Encyclopedia of Neuroscience* (pp. 733–737). <https://doi.org/10.1016/B978-008045046-9.01733-2>
- Duncan, S. H., Louis, P., Thomson, J. M., & Flint, H. J. (2009). The role of pH in determining the species composition of the human colonic microbiota. *Environmental Microbiology*, Vol. 11, pp. 2112–2122. <https://doi.org/10.1111/j.1462-2920.2009.01931.x>
- Faria, A., Fernandes, I., Norberto, S., Mateus, N., & Calhau, C. (2014). Interplay between anthocyanins and gut microbiota. *Journal of Agricultural and Food Chemistry*, 62(29), 6898–6902. <https://doi.org/10.1021/jf501808a>
- Fernández, J., García, L., Monte, J., Villar, C. J., & Lombó, F. (2018). Functional anthocyanin-rich sausages diminish colorectal cancer in an animal model and reduce pro-inflammatory bacteria in the intestinal microbiota. *Genes*, Vol. 9. <https://doi.org/10.3390/genes9030133>

- Fiala, E. S., & Stathopoulos, C. (1984). Metabolism of methylazoxymethanol acetate in the F344 rat and strain-2 guinea pig and its inhibition by pyrazole and disulfiram. *Journal of Cancer Research and Clinical Oncology*, Vol. 108, pp. 129–134. <https://doi.org/10.1007/BF00390984>
- Ghosh, D., McGhie, T. K., Zhang, J., Adaim, A., & Skinner, M. (2006). Effects of anthocyanins and other phenolics of boysenberry and blackcurrant as inhibitors of oxidative stress and damage to cellular DNA in SH-SY5Y and HL-60 cells. *Journal of the Science of Food and Agriculture*, Vol. 86, pp. 678–686. <https://doi.org/10.1002/jsfa.2409>
- Gloor, G. B., & Reid, G. (2016). Compositional analysis: A valid approach to analyze microbiome high-throughput sequencing data. *Canadian Journal of Microbiology*, Vol. 62, pp. 692–703. <https://doi.org/10.1139/cjm-2015-0821>
- Gross, A., McDonnell, J. M., & Korsmeyer, S. J. (1999). BCL-2 family members and the mitochondria in apoptosis. *Genes and Development*, Vol. 13, pp. 1899–1911. <https://doi.org/10.1101/gad.13.15.1899>
- Guergoletto, K. B., Costabile, A., Flores, G., Garcia, S., & Gibson, G. R. (2016). In vitro fermentation of juçara pulp (*Euterpe edulis*) by human colonic microbiota. *Food Chemistry*, Vol. 196, pp. 251–258. <https://doi.org/10.1016/j.foodchem.2015.09.048>
- Hague, A., Elder, D. J. E., Hicks, D. J., & Paraskeva, C. (1995). Apoptosis in colorectal tumour cells: Induction by the short chain fatty acids butyrate, propionate and acetate and by the bile salt deoxycholate. *International Journal of Cancer*, Vol. 60, pp. 400–406. <https://doi.org/10.1002/ijc.2910600322>
- Han, X., Guo, J., You, Y., Yin, M., Ren, C., Zhan, J., & Huang, W. (2018). A fast and accurate way to determine short chain fatty acids in mouse feces based on GC–MS. *Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences*, 1099, 73–82. <https://doi.org/10.1016/j.jchromb.2018.09.013>
- Harris, G. K., Gupta, A., Nines, R. G., Kresty, L. A., Habib, S. G., Frankel, W. L., ... Stoner, G. D. (2001). Effects of lyophilized black raspberries on azoxymethane-induced colon cancer and 8-hydroxy-2'-deoxyguanosine levels in the fischer 344 rat. *Nutrition and Cancer*, Vol. 40, pp. 125–133. [https://doi.org/10.1207/S15327914NC402\\_8](https://doi.org/10.1207/S15327914NC402_8)
- Hassimotto, N. M. A., Genovese, M. I., & Lajolo, F. M. (2008). Absorption and metabolism of cyanidin-3-glucoside and cyanidin-3-rutinoside extracted from wild mulberry (*Morus nigra* L.) in rats. *Nutrition Research*, Vol. 28, pp. 198–207. <https://doi.org/10.1016/j.nutres.2007.12.012>
- Hausen, H. Zur. (2009). The search for infectious causes of human cancers: Where and why (Nobel Lecture). *Angewandte Chemie - International Edition*, Vol. 48, pp. 5798–5808. <https://doi.org/10.1002/anie.200901917>
- Heyer, J., Yang, K., Lipkin, M., Edelmann, W., & Kucherlapati, R. (1999). Mouse models for colorectal cancer. *Oncogene*, 18, 5325–5333. <https://doi.org/10.1038/sj.onc.1203036>
- Hijova, E., & Chmelarova, A. (2007). Short chain fatty acids and colonic health. *Bratislavské Lekárske Listy*, 108(8), 354–358. Retrieved from [https://www.researchgate.net/profile/Emilia\\_Hijova/publication/5647158\\_Short\\_chain\\_fatty\\_acids\\_and\\_colonic\\_health/links/549290280cf2302e1d072e37/Short-chain-fatty-acids-and-colonic-health.pdf](https://www.researchgate.net/profile/Emilia_Hijova/publication/5647158_Short_chain_fatty_acids_and_colonic_health/links/549290280cf2302e1d072e37/Short-chain-fatty-acids-and-colonic-health.pdf)
- Holmstrøm, K., Collins, M. D., Møller, T., Falsen, E., & Lawson, P. A. (2004). Subdoligranulum variabile gen. nov., sp. nov. from human feces. *Anaerobe*, Vol. 10, pp. 197–203. <https://doi.org/10.1016/j.anaerobe.2004.01.004>
- Hoskins, L. C., Kriaris, M., & Niedermeyer, G. (1985). Mucin Degradation in Human Colon Ecosystems. Isolation and Properties of Fecal Strains That Degrade ABH Blood Group Antigens and Oligosaccharides From Mucin Glycoproteins. *The Journal of Clinical Investigation*, 75(3), 944–953. <https://doi.org/10.1172/JCI111795>.

- Hsu, Y. L., Chen, C. C., Lin, Y. T., Wu, W. K., Chang, L. C., Lai, C. H., ... Kuo, C. H. (2019). Evaluation and Optimization of Sample Handling Methods for Quantification of Short-Chain Fatty Acids in Human Fecal Samples by GC-MS. *Journal of Proteome Research*, Vol. 18, pp. 1948–1957. <https://doi.org/10.1021/acs.jproteome.8b00536>
- Huycke, M. M., Abrams, V., & Moore, D. R. (2002). Enterococcus faecalis produces extracellular superoxide and hydrogen peroxide that damages colonic epithelial cell DNA. *Carcinogenesis*, Vol. 23, pp. 529–536. <https://doi.org/10.1093/carcin/23.3.529>
- Ighodaro, O. M., & Akinloye, O. A. (2018). First line defence antioxidants-superoxide dismutase (SOD), catalase (CAT) and glutathione peroxidase (GPX): Their fundamental role in the entire antioxidant defence grid. *Alexandria Journal of Medicine*, Vol. 54, pp. 287–293. <https://doi.org/10.1016/j.ajme.2017.09.001>
- Inada, K. O. P., Oliveira, A. A., Revorêdo, T. B., Martins, A. B. N., Lacerda, E. C. Q., Freire, A. S., ... Monteiro, M. C. (2015). Screening of the chemical composition and occurring antioxidants in jabuticaba (*Myrciaria jaboticaba*) and jussara (*Euterpe edulis*) fruits and their fractions. *Journal of Functional Foods*, 17, 422–433. <https://doi.org/10.1016/j.jff.2015.06.002>
- Jacobs, L. R., & Lupton, J. R. (1986). Relationship between colonic luminal ph, cell proliferation, and colon carcinogenesis in 1,2-dimethylhydrazine treated rats fed high fiber diets. *Cancer Research*, 46, 1727–1734. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/3004703/>
- Kahle, K., Kraus, M., Scheppach, W., Ackermann, M., Ridder, F., & Richling, E. (2006). Studies on apple and blueberry fruit constituents: Do the polyphenols reach the colon after ingestion? *Molecular Nutrition and Food Research*, Vol. 50, pp. 418–423. <https://doi.org/10.1002/mnfr.200500211>
- Kaur, N., Chen, C. C., Luther, J., & Kao, J. Y. (2011). Intestinal dysbiosis in inflammatory bowel disease. *Gut Microbes*, Vol. 2. <https://doi.org/10.4161/gmic.2.4.17863>
- Keppler, K., & Humpf, H. U. (2005). Metabolism of anthocyanins and their phenolic degradation products by the intestinal microflora. *Bioorganic and Medicinal Chemistry*, Vol. 13, pp. 5195–5205. <https://doi.org/10.1016/j.bmc.2005.05.003>
- Kim, B. S., Song, M. Y., & Kim, H. (2014). The anti-obesity effect of Ephedra sinica through modulation of gut microbiota in obese Korean women. *Journal of Ethnopharmacology*, Vol. 152, pp. 532–539. <https://doi.org/10.1016/j.jep.2014.01.038>
- Krugers, J. (1968). *Instrumentation in Gas Chromatography*. <https://doi.org/10.1093/chromsci/6.7.21A-c>
- Lala, G., Malik, M., Zhao, C., He, J., Kwon, Y., Giusti, M. M., & Magnuson, B. A. (2006). Anthocyanin-rich extracts inhibit multiple biomarkers of colon cancer in rats. *Nutrition and Cancer*, Vol. 54, pp. 84–93. [https://doi.org/10.1207/s15327914nc5401\\_10](https://doi.org/10.1207/s15327914nc5401_10)
- Leite-Legatti, A. V., Batista, A. G., Dragano, N. R. V., Marques, A. C., Malta, L. G., Riccio, M. F., ... Maróstica, M. R. (2012). Jaboticaba peel: Antioxidant compounds, antiproliferative and antimutagenic activities. *Food Research International*, 49(1), 596–603. <https://doi.org/10.1016/j.foodres.2012.07.044>
- Leite, A. V., Malta, L. G., Riccio, M. F., Eberlin, M. N., Pastore, G. M., & Maróstica Júnior, M. R. (2011). Antioxidant potential of rat plasma by administration of freeze-dried jaboticaba peel (*Myrciaria jaboticaba* Vell Berg). *Journal of Agricultural and Food Chemistry*, Vol. 59, pp. 2277–2283. <https://doi.org/10.1021/jf103181x>
- Lenquiste, S. A., Marineli, R. da S., Moraes, É. A., Dionísio, A. P., Brito, E. S. de, & Maróstica, M. R. (2015). Jaboticaba peel and jaboticaba peel aqueous extract shows in vitro and in vivo antioxidant properties in obesity model. *Food Research International*, 77, 162–170. <https://doi.org/10.1016/j.foodres.2015.07.023>
- Liang, J. Q., Li, T., Nakatsu, G., Chen, Y. X., Yau, T. O., Chu, E., ... Yu, J. (2019). A novel

- faecal Lachnoclostridium marker for the non-invasive diagnosis of colorectal adenoma and cancer. *Gut*. <https://doi.org/10.1136/gutjnl-2019-318532>
- Lin, H. C., & Visek, W. J. (1991). Large intestinal pH and ammonia in rats: Dietary fat and protein interactions. *Journal of Nutrition*, Vol. 121, pp. 832–843. <https://doi.org/10.1093/jn/121.6.832>
- Lobo, V., Patil, A., Phatak, A., & Chandra, N. (2010). Free radicals, antioxidants and functional foods: Impact on human health. *Pharmacognosy Reviews*, Vol. 4, pp. 118–126. <https://doi.org/10.4103/0973-7847.70902>
- Lopez-Siles, M., Duncan, S. H., Garcia-Gil, L. J., & Martinez-Medina, M. (2017). Faecalibacterium prausnitzii: From microbiology to diagnostics and prognostics. *ISME Journal*, Vol. 11, pp. 841–852. <https://doi.org/10.1038/ismej.2016.176>
- Louis, P., Hold, G. L., & Flint, H. J. (2014). The gut microbiota, bacterial metabolites and colorectal cancer. *Nature Reviews Microbiology*, Vol. 12, pp. 661–672. <https://doi.org/10.1038/nrmicro3344>
- Louis, P., Young, P., Holtrop, G., & Flint, H. J. (2010). Diversity of human colonic butyrate-producing bacteria revealed by analysis of the butyryl-CoA:acetate CoA-transferase gene. *Environmental Microbiology*, Vol. 12, pp. 304–314. <https://doi.org/10.1111/j.1462-2920.2009.02066.x>
- Lupton, J. R., & Newmark, H. L. (1990). Determinants and Consequences of Colonic Luminal pH: Implications for Colon Cancer. *Nutrition and Cancer*, Vol. 14, pp. 161–173. <https://doi.org/10.1080/01635589009514091>
- Mangifesta, M., Mancabelli, L., Milani, C., Gaiani, F., de'Angelis, N., de'Angelis, G. L., ... Turroni, F. (2018). Mucosal microbiota of intestinal polyps reveals putative biomarkers of colorectal cancer. *Scientific Reports*, Vol. 8. <https://doi.org/10.1038/s41598-018-32413-2>
- Marteau, P., Pochart, P., Doré, J., Béra-Maillet, C., Bernalier, A., & Corthier, G. (2001). Comparative Study of Bacterial Groups within the Human Cecal and Fecal Microbiota. *Applied and Environmental Microbiology*, Vol. 67, pp. 4939–4942. <https://doi.org/10.1128/AEM.67.10.4939-4942.2001>
- Martin, J., Navas, M. J., Jimenez-Moreno, A. M., & Asuero, A. G. (2017). Anthocyanin Pigments: Importance, Sample Preparation and Extraction. In *Phenolic Compounds - Natural Sources, Importance and Applications* (pp. 117–152). <https://doi.org/10.5772/66892>
- Martinez-Medina, M., Aldeguer, X., Gonzalez-Huix, F., Acero, D., & Garcia-Gil, L. J. (2006). Abnormal Microbiota Composition in the Ileocolonic Mucosa of Crohn's Disease Patients as Revealed by Polymerase Chain Reaction-Denaturing Gradient Gel Electrophoresis. *Inflamm Bowel Dis*, 12(12), 1136–1145. <https://doi.org/10.1097/01.mib.0000235828.09305.0c>
- Mates, J. M., Perez-Gomez, C., & De Castro, I. N. (1999). Antioxidant Enzymes and Human Diseases. *Clinical Biochemistry*, 32(8), 595–603. <https://doi.org/10.1088/1757-899X/100/1/012049>
- Matsumoto, H., & Higa, H. H. (1966). Studies on methylazoxymethanol, the aglycone of cycasin: methylation of nucleic acids in vitro. *The Biochemical Journal*, Vol. 98. <https://doi.org/10.1042/bj0980020C>
- McConnell, E. L., Basit, A. W., & Murdan, S. (2008). Measurements of rat and mouse gastrointestinal pH, fluid and lymphoid tissue, and implications for in-vivo experiments. *Journal of Pharmacy and Pharmacology*, 60(1), 63–70. <https://doi.org/10.1211/jpp.60.1.0008>
- McCord, J. M. (2000). The evolution of free radicals and oxidative stress. *American Journal of Medicine*, Vol. 108, pp. 652–659. [https://doi.org/10.1016/S0002-9343\(00\)00412-5](https://doi.org/10.1016/S0002-9343(00)00412-5)

- McGarrity, T. J., Peiffer, L. P., & Colony, P. C. (1988). Cellular proliferation in proximal and distal rat colon during 1,2-dimethylhydrazine-induced carcinogenesis. *Gastroenterology*, Vol. 95, pp. 343–348. [https://doi.org/10.1016/0016-5085\(88\)90489-1](https://doi.org/10.1016/0016-5085(88)90489-1)
- McNabney, S. M., & Henagan, T. M. (2017). Short chain fatty acids in the colon and peripheral tissues: A focus on butyrate, colon cancer, obesity and insulin resistance. *Nutrients*, 9(12), 1–28. <https://doi.org/10.3390/nu9121348>
- McNair, H. M., & Miller, J. M. (1998). *Basic Gas Chromatography*. <https://doi.org/10.1002/9780470480106>
- McNeil, N. I., Cummings, J. H., & James, W. P. T. (1978). Short chain fatty acid absorption by the human large intestine. *Gut*, Vol. 19, pp. 819–822. <https://doi.org/10.1136/gut.19.9.819>
- Medic, N., Tramer, F., & Passamonti, S. (2019). *Anthocyanins in Colorectal Cancer Prevention . A Systematic Review of the Literature in Search of Molecular Oncotargets Identification of Articles in Public Database.* 10(June). <https://doi.org/10.3389/fphar.2019.00675>
- Morrison, D. J., & Preston, T. (2016). Formation of short chain fatty acids by the gut microbiota and their impact on human metabolism. *Gut Microbes*, 7(3), 189–200. <https://doi.org/10.1080/19490976.2015.1134082>
- Network, C. G. A. (2012). Comprehensive molecular characterization of human colon and rectal cancer. *Nature*, 487, 330–337. Retrieved from <https://www.nature.com/nature/journal/v487/n7407/full/nature11252.html>
- Nguyen, T. L. A., Vieira-Silva, S., Liston, A., & Raes, J. (2015). How informative is the mouse for human gut microbiota research? *DMM Disease Models and Mechanisms*, 8(1), 1–16. <https://doi.org/10.1242/dmm.017400>
- Orlando, F. A., Tan, D., Baltodano, J. D., Khouri, T., Gibbs, J. F., Hassid, V. J., ... Alrawi, S. J. (2008). Aberrant crypt foci as precursors in colorectal cancer progression. *Journal of Surgical Oncology*, Vol. 98, pp. 207–213. <https://doi.org/10.1002/jso.21106>
- Ozdal, T., Sela, D. A., Xiao, J., Boyacioglu, D., Chen, F., & Capanoglu, E. (2016). The reciprocal interactions between polyphenols and gut microbiota and effects on bioaccessibility. *Nutrients*, 8(2), 1–36. <https://doi.org/10.3390/nu8020078>
- Perse, M., & Cerar, A. (2005). The dimethylhydrazine induced colorectal tumours in rat—experimental colorectal carcinogenesis. *Radiology and Oncology*, 39(1), 61–70. Retrieved from <https://pdfs.semanticscholar.org/acec/f31c97d2588c87d7819748c5db81108a57f9.pdf>
- Perše, M., & Cerar, A. (2011). Morphological and molecular alterations in 1,2 dimethylhydrazine and azoxymethane induced colon carcinogenesis in rats. *Journal of Biomedicine and Biotechnology*, 2011. <https://doi.org/10.1155/2011/473964>
- Pintado, V., Cabellos, C., Moreno, S., Meseguer, M. A., Ayats, J., & Viladrich, P. F. (2003). Enterococcal Meningitis A Clinical Study of 39 Cases and Review of the Literature. *Medicine*, 82(5), 346–364. <https://doi.org/10.1097/01.md.0000090402.56130.82>.
- Prieto, I., Hidalgo, M., Segarra, A. B., Martínez-Rodríguez, A. M., Cobo, A., Ramírez, M., ... Martínez-Cañamero, M. (2018). Influence of a diet enriched with virgin olive oil or butter on mouse gut microbiota and its correlation to physiological and biochemical parameters related to metabolic syndrome. *PLoS ONE*, Vol. 13. <https://doi.org/10.1371/journal.pone.0190368>
- Pye, G., Evans, D. F., Ledingham, S., & Hardcastle, J. D. (1990). Gastrointestinal intraluminal pH in normal subjects and those with colorectal adenoma or carcinoma. *Gut*, 31(12), 1355–1357. <https://doi.org/10.1136/gut.31.12.1355>
- Quatrini, A., Rampelotto, C., Pauletto, R., Maurer, L. H., Nichelle, S. M., Klein, B., ... Emanuelli, T. (2020). Bioaccessibility and catabolism of phenolic compounds from

- jaboticaba (*Myrciaria trunciflora*) fruit peel during in vitro gastrointestinal digestion and colonic fermentation. *Journal of Functional Foods*, Vol. 65. <https://doi.org/10.1016/j.jff.2019.103714>
- Reichardt, N., Duncan, S. H., Young, P., Belenguer, A., McWilliam Leitch, C., Scott, K. P., ... Louis, P. (2014). Phylogenetic distribution of three pathways for propionate production within the human gut microbiota. *ISME Journal*, Vol. 8, pp. 1323–1335. <https://doi.org/10.1038/ismej.2014.14>
- Renis, M., Calandra, L., Scifo, C., Tomasello, B., Cardile, V., Vanella, L., ... Galvano, F. (2008). Response of cell cycle/stress-related protein expression and DNA damage upon treatment of CaCo2 cells with anthocyanins. *British Journal of Nutrition*, Vol. 100, pp. 27–35. <https://doi.org/10.1017/S0007114507876239>
- Restek. (2018). *Restek Guide to GC Columns* (p. 118). p. 118. Retrieved from <https://www.restek.com/pdfs/GNBR1724-UNV.pdf>
- Reynertson, K. A., Wallace, A. M., Adachi, S., Gil, R. R., Yang, H., Basile, M. J., ... Kennelly, E. J. (2006). Bioactive depsides and anthocyanins from jaboticaba (*Myrciaria cauliflora*). *Journal of Natural Products*, 69(8), 1228–1230. <https://doi.org/10.1021/np0600999>
- Reynertson, K. A., Yang, H., Jiang, B., Basile, M. J., & Kennelly, E. J. (2008). Quantitative analysis of antiradical phenolic constituents from fourteen edible Myrtaceae fruits. *Food Chemistry*, Vol. 109, pp. 883–890. <https://doi.org/10.1016/j.foodchem.2008.01.021>
- Ríos-Covián, D., Ruas-Madiedo, P., Margolles, A., Gueimonde, M., De los Reyes-Gavilán, C. G., & Salazar, N. (2016). Intestinal short chain fatty acids and their link with diet and human health. *Frontiers in Microbiology*, Vol. 7. <https://doi.org/10.3389/fmicb.2016.00185>
- Rodrigues, M. A. M., Silva, L. A. G., Salvadori, D. M. F., De Camargo, J. L. V., & Montenegro, M. R. (2002). Aberrant crypt foci and colon cancer: Comparison between a short- and medium-term bioassay for colon carcinogenesis using dimethylhydrazine in Wistar rats. *Brazilian Journal of Medical and Biological Research*, Vol. 35, pp. 351–355. <https://doi.org/10.1590/S0100-879X2002000300010>
- Rufino, M. do S. M., Alves, R. E., de Brito, E. S., Pérez-Jiménez, J., Saura-Calixto, F., & Mancini-Filho, J. (2010). Bioactive compounds and antioxidant capacities of 18 non-traditional tropical fruits from Brazil. *Food Chemistry*, 121(4), 996–1002. <https://doi.org/10.1016/j.foodchem.2010.01.037>
- Schell, J. C., Olson, K. A., Jiang, L., Hawkins, A. J., VanVranken, J. G., Xie, J., ... Rutter, J. (2014). A role for the mitochondrial pyruvate carrier as a repressor of the warburg effect and colon cancer cell growth. *Molecular Cell*, Vol. 56, pp. 400–413. <https://doi.org/10.1016/j.molcel.2014.09.026>
- Shankar, N., Lockatell, C. V., Baghdayan, A. S., Drachenberg, C., Gilmore, M. S., & Johnson, D. E. (2001). Role of Enterococcus faecalis Surface Protein Esp in the Pathogenesis of Ascending Urinary Tract Infection. *Infection and Immunity*, 69(7), 4366–4372. <https://doi.org/10.1128/IAI.69.7.4366-4372.2001>
- Shen, X. J., Rawls, J. F., Randall, T., Burcal, L., Mpande, C. N., Jenkins, N., ... Keku, T. O. (2010). Molecular characterization of mucosal adherent bacteria and associations with colorectal adenomas. *Gut Microbes*, Vol. 1, pp. 138–147. <https://doi.org/10.4161/gmic.1.3.12360>
- Shi, J., Nawaz, H., Pohorly, J., Mittal, G., Kakuda, Y., & Jiang, Y. (2005). Extraction of Polyphenolics from Plant Material for Functional Foods—Engineering and Technology. *Food Reviews International*, 21, 139–166. <https://doi.org/10.1081/FRI-200040606>
- Silva-García, O., Valdez-Alarcón, J. J., & Baizabal-Aguirre, V. M. (2014). The Wnt/  $\beta$ -catenin signaling pathway controls the inflammatory response in infections caused by pathogenic bacteria. *Mediators of Inflammation*, Vol. 2014. <https://doi.org/10.1155/2014/310183>

- Song, Y., Malmuthuge, N., Steele, M. A., & Guan, L. L. (2018). Shift of hindgut microbiota and microbial short chain fatty acids profiles in dairy calves from birth to pre-weaning. *FEMS Microbiology Ecology*, Vol. 94. <https://doi.org/10.1093/femsec/fix179>
- Sughayer, M., Ali, S. Z., Erozan, Y. S., Dunsmore, N., & Hall, G. S. (1997). Pulmonary malacoplakia associated with *Rhodococcus equi* infection in an AIDS patient. Report of a case with diagnosis by fine needle aspiration. *Acta Cytol*, Vol. 41, pp. 507–512. Retrieved from [http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list\\_uids=9100789](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=9100789)
- Sun, H., Zhang, P., Zhu, Y., Lou, Q., & He, S. (2018). Antioxidant and prebiotic activity of five peonidin-based anthocyanins extracted from purple sweet potato (*Ipomoea batatas* (L.) Lam.). *Scientific Reports*, Vol. 8. <https://doi.org/10.1038/s41598-018-23397-0>
- Swenberg, J. A., Cooper, H. K., Bücheler, J., & Kleihues, P. (1979). 1,2-Dimethylhydrazine-induced Methylation of DNA Bases in Various Rat Organs and the Effect of Pretreatment with Disulfiram. *Cancer Research*, 39, 465–467. Retrieved from [https://cancerres.aacrjournals.org/content/39/2\\_Part\\_1/465.long](https://cancerres.aacrjournals.org/content/39/2_Part_1/465.long)
- Swidsinski, A., Khilkin, M., Kerjaschki, D., Schreiber, S., Ortner, M., Weber, J., & Lochs, H. (1998). Association between intraepithelial *Escherichia coli* and colorectal cancer. *Gastroenterology*, Vol. 115, pp. 281–286. [https://doi.org/10.1016/S0016-5085\(98\)70194-5](https://doi.org/10.1016/S0016-5085(98)70194-5)
- Tangerman, A., & Nagengast, F. M. (1996). A gas chromatographic analysis of fecal short-chain fatty acids, using the direct injection method. *Analytical Biochemistry*, Vol. 236, pp. 1–8. <https://doi.org/10.1006/abio.1996.0123>
- Topping, D. L., & Clifton, P. M. (2001). Short-chain fatty acids and human colonic function: Roles of resistant starch and nonstarch polysaccharides. *Physiological Reviews*, Vol. 81, pp. 1031–1064. <https://doi.org/10.1152/physrev.2001.81.3.1031>
- Tura, D., & Robards, K. (2002). Sample handling strategies for the determination of biophenols in food and plants. *Journal of Chromatography A*, Vol. 975, pp. 71–93. [https://doi.org/10.1016/S0021-9673\(02\)00879-8](https://doi.org/10.1016/S0021-9673(02)00879-8)
- van der Beek, C. M., Dejong, C. H. C., Troost, F. J., Mascllee, A. A. M., & Lenaerts, K. (2017). Role of short-chain fatty acids in colonic inflammation, carcinogenesis, and mucosal protection and healing. *Nutrition Reviews*, 75(4), 286–305. <https://doi.org/10.1093/nutrit/nuw067>
- Venegas, D. P., Fuente, M. K., Landskron, G., Gonzales, M., Quera, R., Dijkstra, G., ... Hermoso, M. A. (2018). Short Chain Fatty Acids (SCFAs) Mediated Gut Epithelial and Immune Regulation and Its Relevance for Inflammatory Bowel Diseases. *Immunology*. <https://doi.org/10.3389/fimmu.2019.00277>
- Vitaglione, P., Donnarumma, G., Napolitano, A., Galvano, F., Gallo, A., Scalfi, L., & Fogliano, V. (2007). Protocatechuic Acid Is the Major Human Metabolite of Cyanidin-Glucosides. *The Journal of Nutrition*, Vol. 137, pp. 2043–2048. <https://doi.org/10.1093/jn/137.9.2043>
- Walker, A. W., Duncan, S. H., Carol McWilliam Leitch, E., Child, M. W., & Flint, H. J. (2005). pH and peptide supply can radically alter bacterial populations and short-chain fatty acid ratios within microbial communities from the human colon. *Applied and Environmental Microbiology*, Vol. 71, pp. 3692–3700. <https://doi.org/10.1128/AEM.71.7.3692-3700.2005>
- Wang, H. B., Wang, P. Y., Wang, X., Wan, Y. L., & Liu, Y. C. (2012). Butyrate enhances intestinal epithelial barrier function via up-regulation of tight junction protein claudin-1 transcription. *Digestive Diseases and Sciences*, Vol. 57, pp. 3126–3135. <https://doi.org/10.1007/s10620-012-2259-4>
- Wang, L. S., & Stoner, G. D. (2008). Anthocyanins and their role in cancer prevention. *Cancer*

- Letters*, Vol. 269, pp. 281–290. <https://doi.org/10.1016/j.canlet.2008.05.020>
- Wargovich, M. J., Brown, V. R., & Morris, J. (2010). Aberrant crypt foci: The case for inclusion as a biomarker for colon cancer. *Cancers*, 2(3), 1705–1716. <https://doi.org/10.3390/cancers2031705>
- Whitehead, J. S., Kim, Y. S., & Prizont, R. (1976). A simple quantitative method to determine short chain fatty acid levels in biological fluids. *Clinica Chimica Acta*, Vol. 72, pp. 315–318. [https://doi.org/10.1016/0009-8981\(76\)90193-5](https://doi.org/10.1016/0009-8981(76)90193-5)
- Whitman, W. B., Coleman, D. C., & Wiebe, W. J. (1998). Prokaryotes: The unseen majority. *Proc. Natl. Acad. Sci.*, 95, 6578–6583. <https://doi.org/10.1073/pnas.95.12.6578>
- Wong, M. C., Ding, H., Wang, J., Chan, P. S., & Huang, J. (2019). Prevalence and risk factors of colorectal cancer in Asia. *Intestinal Research*, 17(3), 317–329. <https://doi.org/10.5217/ir.2019.00021>
- Woods, D. D., & Foster, M. A. (1964). Metabolic considerations relating to the life of bacteria in vivo. *Microbial Behaviour "In Vivo and In Vitro,"* 30–43. Retrieved from <https://books.google.co.id/books?id=QHIRvgAACAAJ&printsec=frontcover#v=onepage&q&f=false>
- Wu, G., Fang, Y.-Z., Yang, S., Lupton, J. R., & Turner, N. D. (2004). Glutathione Metabolism and Its Implications for Health. *The Journal of Nutrition*, 134(3), 489–492. <https://doi.org/10.1093/jn/134.3.489>
- Wu, S. B., Long, C., & Kennelly, E. J. (2013). Phytochemistry and health benefits of jaboticaba, an emerging fruit crop from Brazil. *Food Research International*, 54(1), 148–159. <https://doi.org/10.1016/j.foodres.2013.06.021>
- Youssef, O., Lahti, L., Kokkola, A., Karla, T., Tikkanen, M., Ehsan, H., ... Sarhadi, V. (2018). Stool Microbiota Composition Differs in Patients with Stomach, Colon, and Rectal Neoplasms. *Digestive Diseases and Sciences*, Vol. 63, pp. 2950–2958. <https://doi.org/10.1007/s10620-018-5190-5>
- Yuan, W., Zhou, L., Deng, G., Wang, P., Creech, D., & Li, S. (2011). Anthocyanins, Phenolics, and Antioxidant Capacity of Vaccinium L. in Texas, USA. *Pharmaceutical Crops*, 2(1), 11–23. <https://doi.org/10.2174/2210290601102010011>
- Yun, J. M., Afaq, F., Khan, N., & Mukhtar, H. (2009). Delphinidin, an anthocyanidin in pigmented fruits and vegetables, induces apoptosis and cell cycle arrest in human colon cancer HCT116 cells. *Molecular Carcinogenesis*, Vol. 48, pp. 260–270. <https://doi.org/10.1002/mc.20477>
- Ze, X., Duncan, S. H., Louis, P., & Flint, H. J. (2012). Ruminococcus bromii is a keystone species for the degradation of resistant starch in the human colon. *ISME Journal*, Vol. 6, pp. 1535–1543. <https://doi.org/10.1038/ismej.2012.4>
- Zhang, Xin, Yang, Y., Wu, Z., & Weng, P. (2016). The Modulatory Effect of Anthocyanins from Purple Sweet Potato on Human Intestinal Microbiota in Vitro. *Journal of Agricultural and Food Chemistry*, Vol. 64, pp. 2582–2590. <https://doi.org/10.1021/acs.jafc.6b00586>
- Zhang, Xiuying, Shen, D., Fang, Z., Jie, Z., Qiu, X., Zhang, C., ... Ji, L. (2013). Human Gut Microbiota Changes Reveal the Progression of Glucose Intolerance. *PLoS ONE*, Vol. 8. <https://doi.org/10.1371/journal.pone.0071108>
- Zhang, Y., Vareed, S. K., & Nair, M. G. (2005). Human tumor cell growth inhibition by nontoxic anthocyanidins, the pigments in fruits and vegetables. *Life Sciences*, Vol. 76, pp. 1465–1472. <https://doi.org/10.1016/j.lfs.2004.08.025>
- Zhou, Y., He, H., Xu, H., Li, Y., Li, Z., Du, Y., ... Nie, Y. (2016). Association of oncogenic bacteria with colorectal cancer in South China. *Oncotarget*, 7(49), 80794–80802. <https://doi.org/10.18632/oncotarget.13094>
- Zhu, Q., Jin, Z., Wu, W., Gao, R., Guo, B., Gao, Z., ... Qin, H. (2014). Analysis of the intestinal

lumen microbiota in an animal model of colorectal cancer. *PLoS ONE*, 9(3), 1–10.  
<https://doi.org/10.1371/journal.pone.0090849>

