
BIOGRAPHICAL SKETCH

NAME Ronald L. Prior	POSITION TITLE Research Chemist, USDA, ARS, AR Children's Nutrition Center; Adj. Professor, Univ. AR, Dept. Food Science
eRA COMMONS USER NAME	

EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Nebraska	BS	1967	Animal Science
Cornell University	Ph.D.	1967-1971	Nutrition
Cornell University, Dept. Vet Science	Postdoctoral	1971-73	Comp. Gastroenterology

Dr. Prior received his Ph.D. in Nutrition with minors in biochemistry and physiology from Cornell University. His graduate training was followed by two years of post-doctoral training in Comparative Gastroenterology in the College of Veterinary Medicine at Cornell University. Dr. Prior has been with the Agricultural Research Service of the USDA for 30+ years. Following 13 years at the USDA Human Nutrition Research Center on Aging at Tufts, Dr. Prior moved in 2000 to the Arkansas Children's Nutrition Center in Little Rock, AR where he is involved in their phytochemical and health research program. Dr. Prior has published more than 200 articles in peer reviewed scientific journals. Dr. Prior received the Alex Wetherbee Award from the North American Blueberry Council for his contributions to the blueberry industry resulting from research on the antioxidant components and health benefits of blueberries. Dr. Prior's research efforts have focused on assessing antioxidant capacity of fruits and vegetables and understanding the absorption and metabolism of antioxidant phytochemicals in fruits and vegetables. Dr. Prior's laboratory has provided the data on anthocyanins, proanthocyanidins and antioxidant capacity of fruits and vegetables for the flavonoid database in the USDA food nutrient database. Dr. Prior's recent research focus has been on effects of foods high in anthocyanins on the development of obesity and metabolic syndrome.

Positions

Research Chemist, Assistant Professor, Roman L. Hruska U.S. Meat Animal Research Center, U.S.D.A. and University of NE, Clay Center, NE. (1973 -84); USDA-ARS, Scientific Program Officer/Nutritionist, Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, Boston, MA. (1987-98): Laboratory Chief/Nutritionist, Phytochemical Research Lab, USDA-ARS, Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, Boston, MA. (1987 – 2000) Laboratory Chief/Nutritionist, Phytochemical Research Lab, Arkansas Children's Nutrition Center and Arkansas Children's Hospital Research Institute, Little Rock, AR; Adjunct Professor, Food Science Department, Univ. Arkansas, Fayetteville, AR (2000–Present)

Professional Service

Editorial Board Member

Journal of Nutrition - 1984

Professional Societies- American Society for Nutrition; American Chemical Society; Institute of Food Technology

Honors/Awards-

Younger Animal Scientist Award for Research, Midwestern Section of the American Society of Animal Science
Alex Wetherbee Research Award from the North American Blueberry Council (2000)

Top cited author in Agricultural Sciences, 1996-2006

B. Selected peer-reviewed publications (total of 200 peer-reviewed articles).

1. Wu, X.; Pittman, H. E.; **Prior, R. L.** (2004) Pelargonidin Is Absorbed and Metabolized Differently than Cyanidin after Marionberry Consumption in Pigs. **J. Nutr.** 134, 2603-2610.
2. Wu, X.; **Prior, R. L.** (2005) Systematic identification and characterization of anthocyanins by HPLC-ESI-MS/MS in Common Foods in the United States: Fruits and Berries. **J. Agric. Food Chem.** 53, 2589-2599.
3. Wu, X.; **Prior, R. L.** (2005) Aglycones and sugar moieties alter anthocyanin absorption and metabolism following berry consumption in the weanling pig. **J. Nutr.** 135, 2417-2424..

4. **Prior, R. L.**; Gu, L. (2005) Prevalence, structural diversity and biological significance of proanthocyanidins (Condensed Tannins) in the American diet. **Phytochemistry** 66, 2263-2279.
5. Huang, D.; Ou, B.; **Prior, R. L.** (2005) The Chemistry Behind Antioxidant Capacity Assays. **J. Agric. Food Chem.** 53, 1841 -1856.
6. Wu, X.; Pittman, H. E.; **Prior, R. L.** (2006) Fate of anthocyanins and antioxidant capacity in contents of the gastrointestinal tract of weanling pigs following black raspberry consumption. **J. Agric. Food Chem.** 54, 583-589.
7. Wu, X.; Beecher, G. R.; Holden, J. M.; Haytowitz, D. B.; Gebhardt, S. E.; **Prior, R. L.** (2006) Concentrations of anthocyanins in common foods and estimation of normal consumption in the United States. **J. Agric. Food Chem.** 54, 4069-4075.
8. **Prior, R. L.**; Wu, X.; Gu, L. (2006) Perspective: Flavonoid metabolism and challenges to understanding mechanisms of health effects. **J. Sci. Food Agric.** 86,2487-2491..
9. **Prior, R. L.**; Wu, X.; Gu, L. (2006) Identification and Urinary Excretion of Metabolites of 5-(hydroxymethyl)-2-furaldehyde (HMF) in Human Subjects Following Consumption of Dried Plums or Dried Plum Juice. **J. Agric. Food Chem.** 54, 3744-3749.
10. Gu, L.; House, S. E.; Rooney, L. W.; **Prior, R. L.** (2007) Sorghum Bran in the Diet Dose Dependently Increased Excretion of Catechins and Microbial Derived Phenolic Acids in Female Rats. **J. Agric. Food Chem.** 55, 5326-5334.
11. **Prior, R. L.**; Wu, X. (2006) Anthocyanins: structural characteristics that result in unique metabolic patterns and biological activities. **Free Radic Res** 40, (10), 1014-28.
12. **Prior, R. L.**; Gu, L.; Wu, X.; Jacob, R. A.; Sotoudeh, G.; Kader, A. A.; Cook, R. A. (2007) Plasma antioxidant capacity changes following a meal be used as a measure of the ability of a food to alter *in vivo* antioxidant status. **J. Amer. Coll. Nutr.** 26, (2), 170-181.
13. Gu, L.; House, S. E.; Rooney, L. W.; **Prior, R. L.** (2007) Sorghum Bran in the Diet Dose Dependently Increased Excretion of Catechins and Microbial Derived Phenolic Acids in Female Rats. **J. Agric. Food Chem.** 55, 5326-5334.
14. Gu, L.; House, S. E.; Rooney, L. W.; **Prior, R. L.** (2007) Extrusion Increased Bioavailability of Sorghum Procyanidins in Weanling Pigs. *J Agric Food Chem.* 56, 1283-1288.
15. **Prior, R. L.**; Gu, L.; Wu, X.; Jacob, R. A.; Sotoudeh, G.; Kader, A. A.; Cook, R. A. (2007) Plasma antioxidant capacity changes following a meal as a measure of the ability of a food to alter *in vivo* antioxidant status. **J Am Coll Nutr**, 26, (2), 170-81.
16. **Prior, R. L.**; Wu, X.; Gu, L.; Hager, T.; Hager, A.; Howard, L. R. (2008) Whole Berries vs. Berry Anthocyanins: Interactions with Dietary Fat Levels in the C57BL/6J Mouse Model of Obesity. **J. Agric. Food Chem.** 56, 647-658.
17. Hager, T.; Howard, L. R.; Liyanage, R.; Lay, J. O.; **Prior, R. L.** (2008) Ellagitannin Composition of Blackberry as Determined by HPLC-MS and MALDI-TOF MS. **J. Agric. Food Chem.** 56, (1), 661-669.
18. Brownmiller, C., Howard, L. R., **Prior, R. L.**, Processing and Storage Effects on Procyanidin Composition and Concentration of Processed Blueberry Products, *J. Agric. Food Chem.* 2009, Accepted 01/12/2009.
19. Wu, X., Pittman, H. E., Hager, T., Hager, A., et al. (2008) Phenolic acids in black raspberry and in the gastrointestinal tract of pigs fed black raspberry, **Mol. Nutr. Food Res.** (Accepted 9/2008).
20. Rautiainen, S., Serafini, M., Morgenstern, R., **Prior, R. L.**, et al. (2008) The validity and reproducibility of food-frequency questionnaire-based total antioxidant capacity estimates in Swedish women, **Am J Clin Nutr** 87, 1247-1253.
21. **Prior, R. L.**, Wu, X., Gu, L., Hager, T. J., et al., (2008) Whole berries versus berry anthocyanins: interactions with dietary fat levels in the C57BL/6J mouse model of obesity, **J Agric Food Chem** 56, 647-653.
22. **Prior, R. L.** (2008) Antioxidant Status In Vivo: The Case for Regular Consumption of Antioxidant Rich Fruits and Vegetables, **Acta Horticulture** (Accepted 08/18/2008).