

Barry Sears, Ph.D.
Curriculum Vitae

Research Interests: Dietary modulation of hormonal responses and eicosanoid biosynthesis, use of anti-inflammatory nutrition for the treatment of chronic disease conditions.

Education:

1964-1968 A.B. (with Honors) Occidental College

1968-1971 Ph.D. Indiana University

Postdoctoral Training:

1971-1974 University of Virginia Medical School, Department of Biochemistry

1974-1975 Boston University Medical School, Department of Medicine

Academic and Non-Profit Positions:

1975-1978 Research Instructor, Department of Medicine, Boston University Medical School

1978-1982 Staff Scientist, National Magnet Laboratory, Massachusetts Institute of Technology

2003-present President, Inflammation Research Foundation, Marblehead, MA

Industrial Positions:

1976-1986 President, Lipid Specialties, Inc.

1982-1986 President, PGE Technologies, Inc.

1986-1992 President, BIOSYN, Inc.

1992-1996 President, Eicotec Foods, Inc.

1992-present President, Surfactant Technologies, Inc.

1996-1999 President, Eicotech Corporation

1999-present President, Zone Labs, Inc.

Professional Memberships:

American Oil Chemists Society
International Society for the Study of Fatty Acids and Lipids
American Diabetes Association
Obesity Society
American Society of Bariatric Physicians

Publications

1. Griffiths, R.R., Sears, B., and Jennings, L.B. "Specificity of transfer of a learned response by intracisternal injection of brain extract from trained rats: negative findings." *Psychological Reports* 25: 339-348 (1969)
2. Baumrucker, J., Calzadilla, M., Centeno, M., Lehrmann, G., Linquist, P., Dunham, D., Price, M., Sears, B., and Cordes, E.H. "Secondary valence force catalysis. XI. Enhanced reactivity and affinity of cyanide ions elicited by ionic surfactants." *J Phys Chem* 74: 1152-1156 (1970)
3. Baumrucker, J., Calzadilla, M., Centeno, M., Lehrmann, G., Urdaneta, M., Linquist, P., Dunham, D., Price, M., Sears, B., and Cordes, E.H. "Secondary valence force catalysis. XII. Enhanced reactivity and affinity of cyanide toward N-substituted 3-carbomoyl-pyridinium ions elicited by ionic surfactants and biological lipids." *J Am Chem Soc* 94: 8162-8172 (1972)
4. Williams, E., Sears, B., Allerhand, A., and Cordes, E.H. "Segmental motion of amphiphathic molecules in aqueous solutions and micelles. Applications of natural abundance ¹³C partially relaxed fourier transform nuclear magnetic resonance spectroscopy." *J Am Chem Soc* 95: 4871-4874 (1973)
5. Sears, B., Hutton, W.C., and Thompson, T.E. "¹³C NMR studies on bilayers formed from synthetic di-10-methyl-stearoyl phosphatidylcholine enriched with ¹³C in the N-methyl carbons." *Biochem Biophys Res Comm* 60: 1141-147 (1974)
6. Sears, B. "¹³C nuclear magnetic resonance studies of egg phosphatidylcholine." *J Mem Biol* 20: 59-73 (1975)
7. Sears, B., Hutton, W.C., and Thompson, T.E. "Effects of paramagnetic shift reagents on the ¹³C nuclear magnetic resonance spectra of egg phosphatidylcholine enriched with ¹³C in the N-methyl carbons." *Biochemistry* 15: 1635-1639 (1976).
8. Yeagle, P.E., Hutton, W.C., Martin, R.B., Sears, B., and Huang, C. "Transmembrane asymmetry of vesicle lipids." *J Biol Chem* 251: 2110-2114 (1976)
9. Sears, B., Deckelbaum, R.J., Janiak, M.J., Shipley, G.G., and Small, D.M. "Temperature dependent ¹³C nuclear magnetic resonance studies of human serum low density lipoproteins." *Biochemistry* 15: 4151-4157 (1976)
10. Curatolo, W.C., Shipley, G.G., Small, D.M., Sears, B., and Neuringer, L.J. "Effect of lectin-induced agglutination on ¹³C nuclear magnetic resonance line width in sonicated phospholipid/glycolipid vesicles." *J Amer Chem Soc* 99: 6771-6772 (1977)
11. Roseman, M.A., Lentz, B., Sears, B., Gibbes, D., and Thompson, T.E. "Properties of sonicated vesicles of three synthetic phospholipids." *Chem Phys Lipids* 21: 205-210 (1978)

12. Curatolo, W.C., Yau, A.O., Small, D.M., and Sears, B. "Lectin-induced agglutination of phospholipid/glycolipid vesicles." *Biochemistry* 17: 5740-5744 (1978)
13. Neuringer, L.J., Sears, B., and Jungalwala. "Difference in orientational order in phospholipid and sphingomyelin bilayers. *FEBS Letters* 104: 173-175 (1979)
14. Neuringer, L.J., Sears, B., and Jungalwala, F.B. "²H NMR studies of the interaction of cerebroside with dipalmitoyl phosphatidylcholine in bilayers." *Biochim Biophys Acta* 558: 325-329 (1979)
15. Widder, K.J., Senyei, A.E. and Sears, B. "Experimental methods in cancer therapeutics." *J Pharm Sci* 71: 379-387 (1982)
16. Mendelsohn, R., Dluhy, R.A., Curatolo, and Sears, B. "Order and fluidity in terminal methyl regions of dipalmitoyl phosphatidylcholine multilayers: a comparison of Raman and deuterium NMR spectroscopy." *Chem Phys Lipids* 30: 287-291 (1983)
17. Stark, R.E., Manstein, J.L., Curatolo, W.C., and Sears, B. "Deuterium NMR of bile salt/phosphatidylcholine mixed micelles." *Biochemistry* 22: 2486-2490 (1983)
18. Curatolo, W.C., Sears, B., and Neuringer, L.J. "A calorimetry and deuterium NMR study of mixed model membranes of 1-palmitoyl-2-oleyl phosphatidylcholine and saturated phosphatidylcholines." *Biochim Biophys Acta* 817: 261-270 (1985)
19. Curatolo, W.C., Jungalwala, F.B., Sears, B., Tuck, L., and Neuringer, L.J. "Deuterium NMR spectroscopy of biosynthetically deuterated mammalian tissues." *Biochemistry* 24: 4360-4364 (1985)
20. Sears, B. "Essential fatty acids and dietary endocrinology: a hypothesis for cardiovascular treatment." *J Adv Med* 6: 211-224 (1993)
21. Sears, B. "The Zone diet and athletic performance." *Sports Med* 99: 289-291 (2000)
22. Bell, S.J. and Sears, B. "Low-glycemic load diets: Impact on obesity and chronic diseases." *Crit Rev Food Sci and Nutr* 43: 357-377 (2003)
23. Bell SJ and Sears B. "A Proposal for a New National Diet: A Low Glycemic- Load Diet with a Unique Macronutrient Composition." *Metabol Synd and Related Disord* 1:199-208 (2003).
24. Bell SJ and Sears B. "The Zone Diet: An Anti-Inflammatory, Low Glycemic-Load Diet." *Metabol Synd and Related Disord* 2:24-38 (2004).
25. Johnston CS, Tjonn S, Swan PD, White A, Hutchins H, and Sears B. "Ketogenic low-carbohydrate diets have no metabolic advantage over nonketogenic low-carbohydrate diets." *Am J Clin Nutr* 83: 1055-1061 (2006)
26. Johnston CS, Tjonn SL, Swan PD, White A, and Sears B. "Low-carbohydrate, high-protein diets that restrict potassium-rich fruits and vegetables promote calciuria." *Osteoporos Int* 17: 1820-1821 (2006)
27. Johnston, CS, White AM, Tjonn, S, Swan PD, Hutchins H, and Sears B. "Ketogenic low-carbohydrate diets have no metabolic advantage over nonketogenic low-carbohydrate diets. Reply to NJ Krilanovich." *Am J Clin Nutr* 85: 239 (2007)
28. Sorgi PJ, Hollowell EM, Hutchins HL, and Sears B. "Effects of an open-label pilot study with high-dose EPA/DHA concentrates on plasma phospholipids and behavior in children with attention deficit hyperactivity disorder *Nutr J* 13:16 (2007)
29. White AM, Johnston CS, Swan PD, Tjonn SL, and Sears B. "Blood ketones are directly related to fatigue and perceived effort during exercise in overweight adults adhering to low-carbohydrate diets for weight loss: A pilot study." *J Am Diet Assoc* 107: 1792-1796 (2007)

30. Sears B. "Anti-inflammatory diets for obesity and diabetes." *J Coll Amer Nutr* 28: 482S-491S (2009)
31. Mills JD, Bailes JE, Sedney CL, Hutchins H, and Sears B. "Omega-3 dietary supplementation reduces traumatic axonal injury in a rodent head injury model". *J Neurosurgery* 114: 77-84 (2011)
32. Sears B and Ricordi C. "Anti-inflammatory nutrition as a pharmacological approach to treat obesity." *J Obesity* 2011: 431985 (2011)
33. Sears B and Ricordi C. "Role of fatty acids and polyphenols in inflammatory gene transcription and their impact on obesity, metabolic syndrome, and diabetes." *Eur Rev Med Pharmacol Sci* 16: 1137-1154 (2012)
34. Lotrich, FE, Sears, B, and McNamara RK. "Elevated ratio of arachidonic acid to long-chain omega-3 fatty acids predicts depression development following interferon-alpha treatment: Relationship with interleukin-6." *Brain, Behavior, and Immunity* 31: 48-53 (2013)
35. Sears B, Bailes J, and Asselin B. "Therapeutic uses of high-dose omega-3 fatty acids to treat comatose patients with severe brain injury." *PharmaNutrition* 1: 86-89 (2013)
36. Lotrich FE, Sears B, and McNamara R.K. "Anger induced by interferon-alpha is moderated by ratio of arachidonic acid to omega-3 fatty acids." *J Psychosomatic Res* 75:475-483 (2013)
37. Georgiou T, Neokleous A, Nikolaou D, and Sears B. "Pilot study for treating dry age-related macular degeneration (AMD) with high-dose omega-3 fatty acids." *PharmaNutrition* doi: 10.1016/j.phanu.2013.10.001 (2013)
38. McNamara RK, Perry M, and Sears, B. "Dissociation of C-reactive protein levels from long-chain omega-3 fatty acid status and anti-depressant response in adolescents with major depressive disorder: an open-label dose-ranging trial." *J Nutr Therapeutics* 2:235-243 (2013)

Books

1. Sears, B. *The Zone*. Regan Books (Harper Collins). New York, NY. (1995)
2. Sears, B. *Mastering the Zone*. Regan Books (Harper Collins). New York, NY (1997)
3. Sears, B. *Zone Perfect Meals in Minutes*. Regan Books (Harper Collins). New York, NY (1997)
4. Sears, B. *Zone Food Blocks*. Regan Books (Harper Collins). New York, NY (1998)
5. Sears, B. *The Anti-Aging Zone*. Regan Books (Harper Collins). New York, NY (1999)
6. Sears, B. *A Week in the Zone*. Regan Books (Harper Collins). New York, NY (2000)
7. Sears, B. *The Soy Zone*. Regan Books (Harper Collins). New York, NY (2000)
8. Sears, B. *100 Great Zone Foods*. Regan Books (Harper Collins). New York, NY (2001)
9. Sears B. *The OmegaRx Zone*. Regan Books (Harper Collins). New York, NY (2002)
10. Sears B. *What to Eat in the Zone*. Regan Books (Harper Collins). New York, NY (2003)
11. Sears, B. and Sears, L. *Zone Meals in Seconds*. Regan Books (Harper Collins). New York, NY (2004)

12. Sears, B. *The Anti-Inflammation Zone*. Regan Books (Harper Collins). New York, NY (2005)
13. Sears, B. *Toxic Fat*. Thomas Nelson, Nashville, TN (2008)

U.S. Patents

1. Sears, B. "Phosphatidyl quarternary ammonium compounds." U.S. Patent No. 4,086,257 (1978)
2. Sears, B. "Phosphatidyl sulfonium compounds." U.S. Patent No. 4,097,502 (1978)
3. Sears, B. "Phosphatidyl phosphonium compounds." U.S. Patent No. 4,097,503 (1978)
4. Sears, B. "Method for determining the level of LDL cholesterol in blood plasma." U.S. Patent No. 4,126,416 (1978)
5. Sears, B. "Method of preparing a controlled release pharmaceutical preparation." U.S. Patent No. 4,145,410 (1979)
6. Sears, B. "Kit for determining the level of LDL cholesterol in body fluids." U.S. Patent No. 4,190,628 (1980)
7. Sears, B. and Yesair, D.W. "Xenobiotic delivery vehicles." U.S. Patent No. 4,298,594 (1981)
8. Sears, B. "Method of emulsifying cholesterol, cholesterol esters, and triglyceride compounds." U.S. Patent No. 4,320,121 (1982)
9. Sears, B. "Synthetic phospholipid compounds." U.S. Patent No. 4,426,330 (1984)
10. Sears, B. "Magnetic compositions and magnetic memory devices prepared." U.S. Patent No. 4,507,217 (1985)
11. Sears, B. "Synthetic phospholipid compounds." U.S. Patent No. 4,534,899 (1985)
12. Sears, B. "Method for reducing blood pressure levels in hypertensive persons." U.S. Patent No. 5,059,622 (1991)
13. Sears, B. "Method of and nutritional and pharmaceutical compositions for reduction of hyperinsulinemia." U.S. Patent No. 6,140,304 (2000)