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Present Position

Fragment-Based Drug Discovery Team Leader

Senior Research Fellow

Drug Discovery Division

Johnson & Johnson Pharmaceutical Research and Development (JNJPRD)

Welsh and McKean Roads

Spring House, PA 19477-0776

Experience

Senior Research Fellow	Jan. 1999 – present	JNJPRD R W Johnson Pharm. Res. Inst.
Research Fellow	July 1992 – Dec. 1998	R W Johnson Pharm. Res. Inst.
Principal Scientist	July 1987 – June 1992	R W Johnson Pharm. Res. Inst. Janssen Research Foundation
Senior Scientist	July 1984 – June 1987	Janssen Research Foundation McNeil Pharmaceutical
Research Scientist	May 1983 – June 1984	McNeil Pharmaceutical
Postdoctoral Fellow	Feb. 1982 – May 1983	McNeil Pharmaceutical

JNJPRD, the R W Johnson Pharmaceutical Research Institute, the Janssen Research Foundation, and McNeil Pharmaceutical are all subsidiaries of Johnson & Johnson.

Project-Based Accomplishments, Experience and Contributions at Johnson & Johnson

• Project Leader and/or Co-Inventor of four internal and two licensed NCEs Evaluated in Human Clinical Trials.

○ *Mazapertine (RWJ-37796).*

- Project Champion leading and coordinating the drug discovery phase of the process including the development of comprehensive IP protection.
- Antipsychotic with a novel dopamine D_{2,4} and serotonin 5-HT_{1A} profile.
- Effective against schizophrenia in the clinic.
- Led the RWJ-37796 back-up program which offered several viable recommendations to management for consideration.

- Led the out-licensing effort including at Organon in the Netherlands
 - *RWJ-51204*.
 - Project and Team Leader for an extensive effort involving >1,000 synthetic compounds and molecular modeling directed toward the discovery of a GABA-A partial agonist anxiolytic devoid of sedation and abuse liability.
 - RWJ-51204 was active against a CCK-4 challenge in a human clinical trial.
 - Two RWJ-51205 back-ups were accepted by the DEEC predecessor committee for preclinical evaluation (RWJ-53050 and RWJ-52963)
 - *RWJ-38263*.
 - α_{1a} -Adrenergic receptor antagonist for benign prostatic hypertrophy
 - Prepared compound and co-inventor on the composition of matter patent
 - *JNJ-10284899*.
 - Licensed from the SK Corporation after extensive review
 - Broad-spectrum anticonvulsant presently in Phase IIb clinical trials
 - *JNJ-10284899*.
 - Licensed from the SK Corporation after extensive review
 - Reversible MAO-A/B inhibitor for depression that displayed excellent ADME properties and a biomarker measuring inhibition of norepinephrine metabolism.
 - *JNJ-26990990*.
 - Broad-spectrum anticonvulsant agent
 - Team Leader and composition of matter co-inventor
 - Entered clinical evaluation Feb., 2006
- ***Broad-Based and Comprehensive Experience in Medicinal Chemistry and Drug Discovery***
 - Experienced in all aspects of Ph.D. and associate level recruiting, hiring, management, salary administration, budget forecasting, performance management, and project review.
 - Mentoring, coaching, and development of research staff at the Ph.D. and associate level.
 - Diabetes and metabolic disorders (1982-1988).
 - Inhibitors of gluconeogenesis: sugar phosphates and phosphonates
 - Carbohydrate conjugates of metformin and other biguanide antidiabetics
 - Anti-infective agents, specifically HIV antiviral agents (1987-1989).
 - Developed novel synthetic approach to azasugars that is widely used
 - Project proposed to and approved with encouragement by Paul Janssen.
 - Anti-inflammatory agents relating to astemizole (1987-1989).
 - Immunosuppressants relative to loxoribine (1988-1991).
 - Obesity (1995-2002)
 - Neuropeptide Y5 receptor antagonists
 - Melanocortin MC-4 agonists
 - N-Substituted topiramate analogs
 - Psychiatry: schizophrenia, anxiety, depression (1992-2004)
 - Five compounds accepted into DE for these indications.

- Neurology (1997-present)
 - Alzheimer's disease: BACE inhibitors. In less than three years on the aminoquinazoline scaffold, have improved potency to <5 nM Ki and are actively addressing ADME and other limitations before FIH consideration.
 - Anticonvulsants: chemistry due diligence on the RWJ-333369 licensing agreement with SK, plus internal recommendation of two anticonvulsants.
- Solid phase synthesis: developed innovative technology that has had wide impact involving polymer-supported sulfonate ester linkers (*Tetrahedron Lett.*, ref. 48 and 49).
- Second most cited chemist in Johnson & Johnson during the period 1981-1997 (<http://www.cristal.org/chimie/chimistes.html>).

Education

- *Ph.D., Chemistry, University of California, San Diego, Sept. 1977 – Dec. 1981.*
- *M.S., Chemistry, University of California, San Diego, May 1979.*
 - Professor Murray Goodman, Thesis Advisor
 - “The Synthesis of Model Compounds for Carrier-Isoproterenol Conjugates”
 - U.S. Public Health Service Predoctoral Scholar
- *M.S., Management of Technology, University of Pennsylvania, May, 2003*
 - The Wharton School and Penn Engineering,
 - www.seas.upenn.edu/profprog/emtm/
 - Moore Fellow in the Management of Technology, May, 2002
- *B.A., Biochemistry and Molecular Biology, University of California, Santa Barbara*
 - Sept., 1974 - Aug., 1977
 - Highest Honors at Graduation; Chancellor's Scholar; Member, Scholars' Program
 - National Merit Finalist Scholarship

Honors and Professional Affiliations

- 2003 Industrial Chemistry Award of the Philadelphia Organic Chemists' Club.
 - Poster Session, Reception, and Lecture: May 29, 2003
- 1999 Johnson & Johnson Corporate Office of Science and Technology (COSAT) Excellence in Science Award
- 1997 Johnson & Johnson Significant Achievement Award for Creating the POP Process to Rapidly Move New Compounds from the Laboratory into Clinical Trials
- 1994 Philip B. Hofmann Research Scientist Award for Outstanding Achievement
- 1990 Johnson & Johnson Achievement Award for Outstanding Contributions

Philadelphia Organic Chemists' Club Officer

Chairman (1996), Assistant Chairman (1995)

Secretary (1986), Assistant Secretary (1985)

Current Topics in Medicinal Chemistry, Editor-in-Chief and Founding Editor

Bentham Science Publishers, <http://www.bentham.org/ctmc>. *CTMC* provides thematic coverage of new developments in medicinal chemistry and drug discovery.

Frontiers in Medicinal Chemistry, Editor. Annual book series that started in January 2004.

Instructor at Villanova University, graduate level course on Heteratom Chemistry.

Committee Memberships:

- Reviewer, NIH SBIR/STTR Study Section, Drug Discovery and Development, 2004-present.
- Ph.D. Thesis Committees for two candidates at Villanova and Rutgers University.
- Industrial Advisory Committee, Department of Chemistry and Biochemistry, University of California, San Diego (1996-2004),
- Scientific Advisory Committee, RWJPRI and JNJPRD; 1994-2002.
- Spring House Drug Discovery Credo Champion: 1995.

Personal: Married (three children); born April 7, 1956 (Alameda, California).

Abstracts, Lectures, and Poster Presentations

Numerous abstracts from oral and poster presentations including ca. 15 invited lectures.

Organized and chaired two symposia at national American Chemical Society meetings, including a symposium at the Washington, D.C. ACS meeting Aug, 31st, 2005.

Ronald J. Borne Distinguished Lectureship Award, in Recognition for Outstanding Contributions to Medicinal Chemistry, Department of Medicinal Chemistry, School of Pharmacy, University of Mississippi (April 18, 2006). Highlighted on pg. 6 of *AACP News* **2006**, 37(9).

Publications

Primary Literature Citations

1. Reitz, A. B.; Avery, M. A.; Verlander, M. S.; Goodman, M. "Synthesis of Ring-Alkylated Isoproterenol Derivatives" *J. Org. Chem.* **1981**, 46, 4859-4863.
2. Reitz, A. B.; Verlander, M. S.; Goodman, M. "Alumina-Catalyzed Transformations of O-(3-Oxobutyl) Urethanes" *Tetrahedron Lett.* **1982**, 23, 751-752.
3. Goodman, M.; Verlander, M. S.; Melmon, K. L.; Jacobson, K. A.; Reitz, A. B.; Taulane, J. P.; Avery, M. A.; Kaplan, N. O. "Characterization of Catecholamine Polypeptide Conjugates" *Eur. Polymer J.* **1983**, 19, 997-1004.
4. Verlander, M. S.; Jacobson, K. A.; Reitz, A. B.; Rosenkranz, R. P.; Melmon, K. L.; Goodman, M. "Application of the Congener Approach to the Design and Synthesis of Peptide-Catecholamine Conjugates" *Polym. Sci. Technol.* **1983**, 23, 57-75.

5. Reitz, A. B.; Sonveaux, E.; Rosenkranz, R. P.; Verlander, M. S.; Melmon, K. L.; Hoffman, B. B.; Akita, Y.; Castagnoli, N.; Goodman, M. "Conjugates of Catecholamines. V. Synthesis and beta-Adrenergic Activity of Novel N-(Aminoalkyl)catecholamine Derivatives" *J. Med. Chem.* **1985**, *28*, 634-642.
6. Reitz, A. B.; Avery, M. A.; Rosenkranz, R. P.; Verlander, M. S.; Melmon, K. L.; Hoffman, B. B.; Akita, Y.; Castagnoli, N.; Goodman, M. "Conjugates of Catecholamines. VI. Synthesis and beta-Adrenergic Activity of N-(Hydroxyalkyl)catecholamine Derivatives" *J. Med. Chem.* **1985**, *28*, 642-647.
7. Maryanoff, B. E.; Reitz, A. B.; Duhl-Emswiler, B. A. "Stereochemical Observations on the Wittig Reactions of Oxido Phosphonium Ylides and Aldehydes" *Tetrahedron Lett.* **1983**, *24*, 2477-2480.
8. Reitz, A. B.; Maryanoff, B. E. "Convenient Synthesis of Mono-Deuterated Alkenes" *Synth. Commun.* **1983**, *13*, 845-852.
9. Maryanoff, B. E.; Duhl-Emswiler, B. A.; Reitz, A. B. "Anomalous Stereochemistry in the Wittig Reaction Induced by Nucleophilic Groups in the Phosphonium Ylide" *Phosph. Sulfur* **1983**, *18*, 187-190.
10. Reitz, A. B.; Mutter, M. S.; Maryanoff, B. E. "Observation of Cis and Trans Oxaphosphetanes in the Wittig Reaction by High-Field P-31 NMR Spectroscopy" *J. Am. Chem. Soc.* **1984**, *106*, 1873-1875.
11. Maryanoff, B. E.; Reitz, A. B.; Tutwiler, G. F.; Benkovic, S. J.; Benkovic, P. A.; Pilkis, S. J. Stereoselective Synthesis and Biological Activity of β - and α -D-Arabinose-1,5-diphosphate. Analogues of a Potent Metabolic Regulator. *J. Am. Chem. Soc.* **1984**, *106*, 7851-7853.
12. Reitz, A. B.; Maryanoff, B. E. Reversibility of a Wittig Intermediate Derived from a Triphenylphosphonium Ylide and an Aliphatic Aldehyde. *J. Chem. Soc., Chem. Commun.* **1984**, 1548-1549.
13. Maryanoff, B. E.; Reitz, A. B.; Duhl-Emswiler, B. A. Anomalous Stereochemistry of the Wittig Reaction. Effect of Nucleophilic Groups in the Phosphonium Ylide. *J. Am. Chem. Soc.* **1985**, *107*, 217-226.
14. Maryanoff, B. E.; Reitz, A. B.; Mutter, M. S.; Inners, R. R.; Almond, H. R., Jr. Detailed Rate Studies on the Wittig Reaction of Nonstabilized Phosphorus Ylides via ^{31}P , ^1H , and ^{13}C NMR Spectroscopy. Insight into Kinetic versus Thermodynamic Control of Stereochemistry. *J. Am. Chem. Soc.* **1985**, *107*, 1068-1071.
15. Reitz, A. B.; Nortey, S. O.; Maryanoff, B. E. Stereoselectivity in Electrophile-Promoted Cyclizations of a Hydroxyolefin Derived from Arabinose. Synthesis of a Phosphonate Isostere of β -D-Arabinose-1,5-diphosphate. *Tetrahedron Lett.* **1985**, *26*, 3915-3919.

16. Maryanoff, B. E.; Reitz, A. B. The Wittig Reaction of Nonstabilized Phosphorus Ylides and Aromatic Aldehydes. Studies on Erythro and Threo β -Hydroxyphosphonium Salts and the Promotion of Stereochemical Drift by Synergism Between Diastereomers. *Tetrahedron Lett.* **1985**, 26, 4587-4591.
17. Maryanoff, B. E.; Reitz, A. B. Delving into the Wittig Reaction. Stereochemical Idiosyncrasies and Mechanistic Implications. *Phosph. Sulfur* **1986**, 27, 167-189.
18. Pilkis, S. J.; McGrane, M. M.; Kountz, P. D.; El-Maghrabi, M. R.; Pilkis, J.; Maryanoff, B. E.; Reitz, A. B.; Benkovic, S. J. The Effect of Arabinose-1,5-bisphosphate on Rat Hepatic 6-Phosphofructo-1-kinase and Fructose-1,6-bisphosphatase. *Biochem. Biophys. Res. Commun.* **1986**, 138, 159-167.
19. Reitz, A. B.; Nortey, S. O.; Jordan, A. D., Jr.; Mutter, M. S.; Maryanoff, B. E. Dramatic Concentration Dependence of Stereochemistry in the Wittig Reaction. Examination of the Lithium-Salt Effect. *J. Org. Chem.* **1986**, 51, 3302-3308.
20. McComsey, D. F.; Reitz, A. B.; Maryanoff, C. A.; Maryanoff, B. E. Deoxygenation of Acetylenic Carbinols. Reduction of Cobalt Carbonyl Adducts with Borane-Methyl Sulfide and Trifluoroacetic Acid. *Synth. Commun.* **1986**, 16, 1535-1549.
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22. Caldwell, G. W.; Masucci, J. A.; Reitz, A. B. Structure Elucidation of Mercury(II) Compounds by Positive Chemical Ionization Mass Spectrometry. *Org. Mass. Spectrom.* **1987**, 22, 233-234.
23. Reitz, A. B.; Nortey, S. O.; Maryanoff, B. E.; Liotta, D.; Monahan, R., III. Stereoselectivity of Electrophile-Promoted Cyclizations of γ -Hydroxyalkenes. An Investigation of Carbohydrate-Derived and Model Substrates. *J. Org. Chem.* **1987**, 52, 4191-4202.
24. Reitz, A. B.; Jordan, A. D., Jr.; Maryanoff, B. E. Formation of Chiral Alkoxy Dienes in Wittig/Michael Reactions of 2,3,5-Tri-O-benzyl-D-arabinose. *J. Org. Chem.* **1987**, 52, 4800-4802.
25. Maryanoff, B. E.; Nortey, S. O.; Inners, R. R.; Campbell, S. A.; Reitz, A. B.; Liotta, D. Synthesis of C-Arabinofuranosyl Compounds. Phosphonate and Carboxylate Isosteres of D-Arabinose-1,5-Bisphosphate. *Carbohydr. Res.* **1987**, 171, 259-278.
26. Maryanoff, B. E.; Reitz, A. B.; Nortey, S. O. Synthesis of Phosphates and Phosphate Isosteres of Furanose Sugars as Potential Enzyme Inhibitors. *Tetrahedron* **1988**, 44, 3093-3106.

27. Maryanoff, B. E.; Reitz, A. B.; Graden, D. W.; Almond, H. R., Jr. NMR Rate Study on the Wittig Reaction of 2,2-Dimethylpropanal and Tributylbutylidene-phosphorane. *Tetrahedron Lett.* **1989**, *30*, 1361-1364.
28. Reitz, A. B.; Tuman, R. W.; Marchione, C. S.; Bowden, C. R.; Jordan, A. D., Jr.; Maryanoff, B. E. Carbohydrate Biguanides as Potential Hypoglycemic Agents. *J. Med. Chem.* **1989**, *32*, 2110-2116.
29. Caldwell, G. W.; Reitz, A. B.; Masucci, J. A. Application of Dicyandiamide as a Matrix Additive in Fast Atom Bombardment Mass Spectrometry. *Org. Mass Spectrom.* **1990**, *25*, 317-322.
30. Reitz, A. B.; Graden, D. W.; Jordan, A. D., Jr.; Maryanoff, B. E. Conformational Study of N-Substituted Adenines by Dynamic Proton NMR: Relatively High Barrier to Rotation about C⁶-N⁶ in N³,N⁶-Disubstituted Adenines. *J. Org. Chem.* **1990**, *55*, 5761-5766.
31. Reitz, A. B.; Baxter, E. W. Pyrrolidine and Piperidine Aminosugars from Dicarboxyl Sugars in One Step: Concise Synthesis of 1-Deoxynojirimycin. *Tetrahedron Lett.* **1990**, *31*, 6777-6780.
32. Reitz, A. B.; Rebarchak, M. C. Expedient and Stereoselective Synthesis of α -Guanosine. *Nucleosides Nucleotides* **1992**, *11*, 1115-1121.
33. Baxter, E. W.; Reitz, A. B. Concise Synthesis of 1-Deoxymannojirimycin. *Bioorg. Med. Chem. Lett.* **1992**, *2*, 1419-1422.
34. Ho, W.; Hageman, W. E.; Stanley, K. G.; Gallant, W. R.; Cherry, D. A.; Mohrbacher, R. J.; Maryanoff, B. E.; Reitz, A. B.; Duhl-Emswiler, B. A. Synthesis and Biological Properties of Hydroxythioether Fatty Acids Related to Leukotrienes: Antagonists and Agonists of Slow-Releasing Substance of Anaphylaxis (SRS-A). *Eur. J. Med. Chem.*, **1993**, *28*, 3-12.
35. Maryanoff, B. E.; Zhang, H.-C.; Reitz, A. B.; Leo, G. C.; Jones, W. J. Heteroaromatic N-Oxide Rearrangements. Reinvestigation of 1,3-Tosyloxy Migration in the Reaction of Isoquinoline N-Oxide With Tosyl Chloride. *Tetrahedron Lett.* **1993**, *34*, 7247-7250.
36. Chen, R.; Goodman, M. G.; Argentieri, D.; Bell, S. C.; Burr, L. E.; Come, J.; Goodman, J. H.; Klaubert, D. H.; Maryanoff, B. E.; Pope, B. L.; Rampulla, M. S.; Schott, M. R.; Reitz, A. B. Guanosine Derivatives as Immunostimulants. Discovery of Loxoribine. *Nucleosides Nucleotides*, **1994**, *13*, 551-562.
37. Reitz, A. B.; Blum, P. S.; Codd, E. E.; Maryanoff, C. A.; Ortegón, M. E.; Renzi, M. J.; Scott, M. K.; Shank, R. P.; Vaught, J. L. A New Arylpiperazine Antipsychotic with High D₂/D₃/5-HT_{1A}/ α _{1A}-Adrenergic Affinity and a Low Potential for Extrapyramidal Effects. *J. Med. Chem.* **1994**, *37*, 1060-1062.
38. Baxter, E. W.; Reitz, A. B. Expedient Synthesis of Azasugars by the Double Reductive Amination of Dicarboxyl Sugars. *J. Org. Chem.*, **1994**, *59*, 3175-3185.

39. Reitz, A. B.; Goodman, M.; Pope, B. L.; Argentieri, D. L.; Bell, S. C.; Burr, L. E.; Chourmouzis, E.; Come, J.; Goodman, J. H.; Klaubert, D. H.; Maryanoff, B. E.; McDonnell, M. E.; Rampulla, M. S.; Schott, M. R.; Chen, R. Small-Molecule Immunostimulants. Synthesis and Activity of 7,8-Disubstituted Guanosines and Structurally Related Compounds *J. Med. Chem.*, **1994**, *37*, 3561-3578.
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41. Goodman, M. G.; Reitz, A. B.; Chen, R.; Bobardt, M. D.; Goodman, J. H.; Pope, B. L. Selective Modulation of Elements of the Immune System by Low Molecular Weight Nucleosides. *J. Pharmacol. Exp. Ther.* **1995**, *274*, 1552-1557.
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46. Baxter, E. W.; Reitz, A. B. Hindered Rotation Congeners of the Antipsychotic Mazapertine: High Affinity Ligands for the 5-HT_{1A} Receptor. *Bioorg. Med. Chem. Lett.* **1997**, *7*, 763-768.
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48. Rueter, J. K.; Nortey, S. O.; Baxter, E. W.; Leo, G. C.; Reitz, A. B. Arylsulfonate Esters in Solid Phase Organic Synthesis. Part 1: Cleavage with Amines, Thiols, and Imidazole. *Tetrahedron Lett.* **1998**, *39*, 975-978.
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51. Jetter, M. C.; Reitz, A. B. Synthesis of 4-Substituted Imidazoles via Palladium-Catalyzed Cross-Coupling Reactions. *Synthesis*, **1998**, 829-831.
52. Podlogar, B. L.; Paterlini, M. G.; Ferguson, D. M.; Leo, G. C.; Demeter, D. A.; Brown, F. K.; Reitz, A. B. Conformational Analysis of the Endogenous δ -Opioid Agonist Endomorphin-1 Using NMR Spectroscopy and Molecular Modeling. *FEBS Letters* **1998** *439* 13-20.
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54. Maryanoff, B. E.; Nortey, S. O.; McNally, J. J.; Sanfilippo, P. J.; McComsey, D. F.; Dubinsky, B.; Shank, R. P.; Reitz, A. B. Potential Anxiolytic Agents. 3. Novel A-Ring Modified Pyrido[1,2-*a*]benzimidazoles. *Bioorg. Med. Chem. Lett.* **1999**, *9*, 1547-1552.
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