

Wayne D. Inman, Ph.D.

Professional Experience

8/06-present Principal Scientist, Structure Elucidation Group, Advanced Spectroscopy and Materials Characterization, Analytical Development, Alza Corporation, Mountain View, CA

Responsible for the identification of degradants and impurities in drug substance and drug product utilizing LCMS and NMR techniques. Carried out synthesis of degradants, or was responsible for overall synthesis of material at a contract research lab, in order to generate material for qualification. Proposed origin of degradant based on chemical structure and determined if excipient impurities contributed to degradant formation. Developed analytical tests to measure excipient impurities in order to set acceptable limits. Also provided general analytical service to trouble-shoot production problems and to characterize polymers used in controlled drug release. Managed three analytical chemists and the NMR lab equipped with a Bruker 400 spectrometer.

6/05-8/06 Group Leader, Analytical Research, Chemical Sciences, Scios Inc., 6500 Paseo Padre Parkway, Fremont, CA 94555

2/04-6/05 Senior Scientist II, Analytical Research, Chemical Sciences, Scios Inc., 6500 Paseo Padre Parkway, Fremont, CA 94555

Responsible for development of analytical methods, chemical analysis, stability testing, and physical characterization of small-molecule preclinical leads. Analytical tests included HPLC, IC, GCMS, LCMS, NMR, XRPD, TGA, DSC, and KF. Prepared validation and verification reports and methods. Worked closely with process chemistry, isolated and identified impurities in production batches, assisted in defining process improvements by monitoring impurity profiles of production batches. Acted as analytical internal interface with external GMP contract manufacturers. Managed two analytical chemists at Scios. Responsible for identification of drug metabolites of preclinical leads utilizing LCMS techniques. Managed one Ph.D. level scientist involved in metabolite identification. Managed the NMR lab equipped with two Bruker 400 spectrometers, implemented new NMR experiments to solve structural problems. Solved small-molecule structure analysis problems for medicinal chemistry involving questions of regio or stereochemistry, and dynamic conformational equilibria.

11/01-1/04 Senior Scientist, Analytical Chemistry, Department of Medicinal Chemistry, Tularik, Inc., 2 Corporate Dr., South San Francisco, CA 94080.

Responsible for in vitro drug metabolism of preclinical leads. Identified metabolites using LCMS, MSⁿ techniques and capillary NMR. Metabolism data within a lead series provided information to guide synthetic efforts toward improved PK profiles for preclinical leads. Also responsible for chemical analysis of high-throughput hits from bioassays using NMR and LCMS methods. Managed the NMR lab equipped with Bruker DRX-400 and 500 spectrometers. Responsible for general NMR maintenance and user training. Also responsible for the general maintenance of Thermo-Finnigan LCMS and several HPLC systems in the analytical lab.

3/99 – 11/01 Manager, Quality Control and Analytical Chemistry, Promega Biosciences, Inc., 277 Granada Av., San Luis Obispo, CA, 93401.

Managed the Quality Control and Analytical Chemistry Department to support the production of specialty phosphoramidites, triphosphates, fluorescent dyes, clinical leads in pharmaceutical drug trials, and clinical medical diagnostic reagents. Responsible for the overall budget, instrumentation, and facilities for the QC/Analytical Chemistry Department. Accountable for Raw Material, Intermediate and Final Product testing, and Stability Studies. Provided technical leadership and oversight of analytical test method development as well as technical support to R&D, Process Development and Production departments. Set up a NMR lab equipped with a Varian Mercury VX NMR instrument and Fisons Electrospray Mass Spectrometer. Responsible for the analytical instrumentation, laboratory safety, and training. Supervised a group of five analysts and one technician.

11/97 – 2/99 Associate Director, Natural Products Chemistry, Shaman Pharmaceuticals, Inc., 213 E. Grand Av., South San Francisco, CA 94080.

9/96 – 11/97 Group Leader, Natural Products Chemistry, Shaman Pharmaceuticals, Inc., 213 E. Grand Av., South San Francisco, CA 94080.

Managed the Natural Products Chemistry Department to support the diabetes drug discovery program by identifying leads and providing gram amounts of preclinical leads for biological evaluation. Supervised the processing, discovery, and production teams within the Natural Products Chemistry Department consisting of eight scientists. Responsible for the overall budget, instrumentation, and facilities for the Natural Products Chemistry Group. Developed methods for the isolation and purification of lead compounds from ethnobotanical sources. Performed structural characterization of active compounds utilizing NMR and MS techniques. Carried out large-scale optimization and production of lead compounds and analytical assays to determine purity. Transferred large-scale extraction, isolation procedures, and analytical methods of lead compounds to contract labs. Also assisted with the analytical development of Provir and NDA submission. Developed and validated analytical test methods for drug substances and drug product in a GMP/GLP environment. Isolated and characterized drug impurities. Responsible for analytical technology transfer to contract facilities.

3/93 – 9/96 Senior Scientist, New Lead Discovery and Spectroscopy, Shaman Pharmaceuticals, Inc., 213 E. Grand Av., South San Francisco, CA 94080.

Discovered bioactive lead compounds from ethnobotanical sources in the diabetes and antifungal programs utilizing an in vivo diabetic mouse model and an in vitro antifungal screen. Developed methods for the purification and structure characterization of bioactive compounds. Developed and implemented a diode-array UV-HPLC-linked antifungal bio-assay system. Supervised UV-HPLC-linked bioassay team consisting of three scientists. Served as a member of the Emergency Response Team and Safety Committee. Completed 40 hours of hazardous materials training.

7/92 – 3/93 Staff Researcher I, Institute of Analytical Research, Syntex Discovery Research, 3401 Hillview Av., Palo Alto, CA 94303

Responsible for the development, validation and implementation of analytical test procedures for new drug substances and drug products. Prepared method validation reports and physical-chemical data files for IND filings. Isolated and characterized drug decomposition products and

impurities. Developed methods for surface area analytical of drug substances to assist drug formulation efforts.

7/89 – 6/92 Assistant Professor of Chemistry, Department of Chemistry, South Dakota State University, Brookings, SD 57007

Directed a research program in the discovery of bio-active fungal metabolites and organic photochemistry. Served as Manager of the NMR lab and Chairman of the Undergraduate Committee. Taught a variety of undergraduate and graduate courses in chemistry, including General Chemistry (lab), Instrumental Methods of Analysis (lecture and lab), Organic Chemistry (lecture and lab), Advanced Organic Chemistry, and Organic Structure Determination. Obtained funding for a new instructional program utilizing computers in chemistry at South Dakota State University.

9/81 – 11/83 Chemist, Drexler Technology Inc., 2557 Charleston Rd., Mountain View, CA

Developed an optical data storage medium using reflective gelatin matrices. Synthesized infrared dye precursors and incorporated the synthetic dye into gelatin matrices via a redox coupling reaction.

Education

Ph.D. (Organic Chemistry) University of California Santa Cruz, 1989
Dissertation: "NMR Spectroscopy and Molecular Modeling in Marine Natural Products Chemistry."

M.S. (Chemistry) University of California Santa Cruz, 1985

B.S. (Chemistry) California State University, Los Angeles, 1978
Honors Thesis: "Triplet Photosensitized Reactions of 1-(1-Propenyl)cycloalkenes."

Fellowships

Institute of Marine Sciences Dissertation Year Fellowship, Department of Chemistry, University of California, Santa Cruz, 1988-1989

Sea Grant Trainee Fellow, Department of Chemistry, University of California, Santa Cruz, 1986-1988

National Science Foundation National Needs Trainee, Department of Chemistry, University of California, Los Angeles, 1978-1979

National Science Foundation Undergraduate Research Participant, Department of Chemistry, California State University, Los Angeles, Summer 1976

Academic Honors

Graduated (B.S.) with High Honor and Departmental Honors in Chemistry, California State university, Los Angeles, 1978

Alumni Association of California State University, Los Angeles, Outstanding Undergraduate Award, 1977 and 1978

Western Chapter of the American Institute of Chemists Honor Award, California State University, Los Angeles, 1977

Professional Societies

American Chemical Society

Patents

Inman, W.D.; Liu, J.; Medina, J.C.; Miao, S.; Tang, H.L., Asthma and Allergic Inflammation Modulators, WO 2005/007094

Inman, W. D.; Hopp, D. C., Compositions Containing Hypoglycemicly Active Stilbenoids, US 6,552,085, **April 22, 2003**

Inman, W. D.; Hopp, D. C., Methods of Using Compositions Containing Hypotriglyceridemicly Active Stilbenoids, US 6,541,522 B2, **April 1, 2003**

Hopp, D.C.; Inman, W.D., Compositions Containing Hypoglycemicly Active Stilbenoids, US 6,410,596, **June 25, 2002**

Inman, W. D.; Luo, J., Hypoglycemic Agents from *Harungana* or *Vismia* spp., WO 9825639 A1 **June 18, 1988**

Inman, W. D.; Reed M. J.; Triterpenoid Compound for the Treatment of Diabetes, US 5691386
A **November 25, 1997**

Inman, W. D.; King, S.R.; Evans, J. L., Furanoeremophilane and Eremophilanolide
Sesquiterpenes for Hypoglycemic Agents and the Treatment of Diabetes, and Isolation thereof
from *Psacalium decomposition*, WO 9639401 A1 **December 12, 1996**

Matthews, T.; Crews, P.; Inman, W., Alkaloids of Marine Origin, U.S. 4959370, **September 25, 1990.**

Publications

Fort, D. M.; Ubillas, R. P.; Mendez, C. D.; Jolad, S. D.; Inman, W. D.; Carney, J. R.; Chen, J. L.;
Ianiro, T. T.; Hasbun, C.; Bruening, R. C.; Luo, J.; Reed, M. J.; Iwu, M.; Carlson, T. J.; King, S.
R.; Bierer, D. E.; Cooper, R., "Novel Antihyperglycemic Terpenoid-Quinones from *Pycnanthus*
angolensis," *J. Org. Chem.* **2000**, 65, 6534.

Inman, W. D.; Jolad, S.D.; Luo, J.; King, S. R.; Cooper, R., "Antihyperglycemic Sesquiterpenes
from *Psacalium decompositum*," *J. Nat. Prod.* **1999**, 62, 1088-1092.

Bierer, D.E.; Gerber, R. E.; Jolad, S. D.; Ubillas, R. P.; Dener, J. M.; Fort, D.M.; Kuo, J. E.;
Inman, W. D. Dubenko, L. G.; Ayala, F.; Ozioko, A; Obialor, C.; Elisabethsky, E.; Carlson, T.;
Truong, T. V.; Bruening, R. C., "Isolation, Structure Elucidation, and Synthesis of Irlbacholine,
1,22-Bis[[2-(trimethylammonium)ethoxylphosphinyl]oxy]-docosane: A Novel Antifungal Plant
Metabolite from *Irlbachia alata* and *Anthocleista djalonensis*," *J. Org. Chem.* **1995**, 60, 7022

Senderowicz, A.M.J.; Kaur, G.; Sainz, E.; Laing, C.; Inman, W. D.; Rodriguez, J.; Crews, P.;
Malspeis, L.; Grever, M. R.; Sausville, E. A.; Duncan, K.L.K., "Jasplakinolide's Inhibition of the
Growth of Prostrate Carcinoma Cells In Vitro With Disruption of the Actin Cytoskeleton," *J. Nat.*
Cancer Institute **1995**, 87, 1, 46.

Avery, M.; Gao, F.; Chong, W. K. M.; Hendrickson, T. F.; Inman, W. D.; Crews, P., "Synthesis
Conformation Analysis, and Antimalarial Activity of Tricyclic Analogs of Artemisinin,"
Tetrahedron **1994**, 50, 957.

Singh, Y. N.; Inman, W.D.; Johnson, A.; Linnel, E. J., "Studies of the Muscle-Paralyzing
Compounds of the Juice of the Banana Plant," *Archives Internationales de Pharmacodynamie et*
de Therapie **1993**, 324, 105.

Inman, W. D.; O'Neill-Johnson, M.; Crews, P., "Novel Marine Sponge Alkaloids. 1. Plakidine A
and B, Anthelmintic Active Alkaloids from a *Plakortis* Sponge," *J. Am. Chem. Soc.* **1990**, 112,
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Horton, P.; Inman, W.; Crews, P., "Anthelmintic Enantiomeric Heterocycles from *Dysidea*
Marine Sponges," *J. Nat. Prod.* **1990**, 53, 143

Inman, W.; Crews, P., "Novel Marine Sponge Derived Amino Acids. 8. Conformational
Analysis of Jasplakinolide," *J. Am. Chem. Soc.* **1989**, 111, 2822.

Inman, W. D.; Sanchez, K. A.; Chaidez, M. A.; Paulson, D. R., "The Photosensitized *cis/trans* Isomerization of 1-(-Propeny)cycloalkene," *J. Org. Chem.* **1989**, *54*, 4827.

Inman, W.; Crews, P.; McDowell, R., "Novel Marine Sponge Derived Amino Acids. 9. Lithium Complexation of Jasplakinolide," *J. Org. Chem.* **1989**, *54*, 2530.

Inman, W.; Crews, P., "The Structure and Conformational Properties of a Cembranolide Diterpene from *Clavularia violacea*," *J. Org. Chem.* **1989**, *54*, 2526.

Wiley, J.; Inman, W.; Powell, B.; Distefano, E.; Onak, T., "Correlation of Proton Charge Assignments with Aromatic Solvent-Induced NMR shifts for the *closo*-Carborane Series $C_2B_nH_{n+2}$ ($n = 3$ to 10)," *J. Magn. Reson.* **1981**, *43*, 302.

Onak, T.; Inman, W.; Rosendo, H.; DiStefano, E.; Nurse, J., "Aromatic Solvent Induced Nuclear Magnetic Resonance Shift (ASIS) Behavior and Charge Distribution in Cage Boron Compounds," *J. Am. Chem. Soc.* **1977**, *99*, 6488

Conferences

"Thermal Degradation Products of Bisoprolol", Hu, J., Inman, W., West Coast Chem Pharm, Alza, Mountain View, CA, Research Day, April 5, 2007.

"Isolation and Structure Elucidation of a Process Impurity in SCIO-469, a Potent p38 Kinase Inhibitor, Lei, W., Wen, X., Inman, W., West Coast Chem Pharm, Alza, Mountain View, CA, Research Day, April 5, 2007.

"Identification of a BCPP Degradant in OROS Rabeprazole", Wen, X., Inman, W., West Coast Chem Pharm, Alza, Mountain View, CA, Research Day, April 5, 2007.

"A Hepatic S9-based Assay to Identify Potential Covalent Modifiers Using a Novel MS/MS Correlation Algorithm for Automatic GSH Conjugate Identification", Miao, S., Cho, R., Inman, W., Whitney, J. L., Proceedings of the 51th ASMS conference on Mass Spectrometry and Allied Topics, Montreal, Quebec, June 2-6, 2003.

Reed, M.J.; K. Meszaros; J. Luo; W. Inman; K. Rao; S. King; T. Carlson; L.J. Entes; D. Brignetti; M.D. Claypool; K.A. Scribner; and T. Gadbois. "Harunganin Lowers Glucose and Triglyceride Concentrations in Mouse and Rat Models of type 2 Diabetes." American Diabetes Association 59th Scientific Sessions, San Diego, CA 1999.

Rao, K.; Inman, W. D.; Ianiro, T. T.; Carlson, T. J.; King, S., "Novel Sesquiterpenes from *Psacalium decompositum* (Asteraceae)," 1997 Pacific Conference on Chemistry and Spectroscopy, Irvine, CA, October 21-25, 1997.

Inman, W. D.; Linnell, E.; Naylor, S.; O'Neill-Johnson, M., "23-Dehydroecdysterone, A New Ecdysteroid From the Mushroom *Polyporus badius*," The 37th Annual meeting of Pharmacognosy, University of California, Santa Cruz, CA, July 27-31, 1996.

Singh, Y. N.; Inman, W. D.; Linnell, E, "Studies of the Muscle Paralytic Components of the Juice of *Musa sapientum*," IVth Pan American Symposium on Animal, Plant and Microbial Toxins, Campinas, Brazil, July 27-31, 1992.

Inman, W. D.; Wang, H. J., "Polar Substituent Effects on 1,3-Diene Photocyclization Reactions," 26th Midwest Regional American Chemical Society Meeting, Omaha, NE, November 6-8, 1991.

Inman, W.; Crews, P., "A New Cembranolide," 1988 Pacific Conference on Chemistry and Spectroscopy, San Francisco, CA, October 28-30, 1988.

Inman, W.; Crews, P., "The Use of Chembase in Marine Natural Products," 1988 Pacific Conference on Chemistry and Spectroscopy, San Francisco, CA, October 28-30, 1988.

Inman, W.; Crews, P., Conformational Properties of the Marine Sponge Metabolite Jaspilakinolide," 1987 Pacific Conference on Chemistry and Spectroscopy, Irvine, CA, October 28-30, 1987.

Inman, W.; Crews, P., "Conformational Properties and Ionophoric Selectivity of the Cyclodepsipeptide Jaspilakinolide," 194th National American Chemical Society Meeting, New Orleans, August 30- September 4, 1987.

Inman, W.; Paulson, D. R., "Triplet Sensitized Photoisomerization of 1-(1-Propenyl)cycloheptene," 15th Western Regional Meeting of the American Chemical Society, Pasadena, CA, 1980.

Inman, W.; Paulson, D. R., "Triplet Sensitized Photoisomerization of 1-(1-Propenyl)cycloalkenes," 178th National American Chemical Society Meeting, Washington, D. C., September 9-15, 1979

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Available upon request