

## CURRICULUM VITAE

(December 3, 2014)

### CHRIS M. IRELAND

University of Utah  
College of Pharmacy  
Department of Medicinal Chemistry  
Salt Lake City, Utah 84112  
(801) 581-8305

#### Birth date

November 22, 1951, San Diego, California, U.S. Citizen

#### Marital Status

Married, four children

#### Education

1973	B.A. University of California, San Diego
1977	Ph.D. Scripps Institution of Oceanography

<b>Position</b>	Distinguished Professor of Medicinal Chemistry and Director of Research Utah Asia Campus
-----------------	---

#### Professional Appointments

2014-	Director of Research, Utah Asia Campus in Incheon, South Korea
2014-	Distinguished Professor of Medicinal Chemistry
2010-14	Dean, College of Pharmacy, University of Utah
2010-	L. S. Skaggs Presidential Endowed Chair for Pharmacy
2009-10	Interim Dean, College of Pharmacy, University of Utah
2002-09	Chair, Department of Medicinal Chemistry, University of Utah
2002	Visiting Scholar, Griffith University
1991-	Adjunct Professor, Department of Chemistry, University of Utah
1991-	Professor, Department of Medicinal Chemistry, College of Pharmacy, University of Utah
1986-91	Adjunct Associate Professor, Department of Chemistry, University of Utah
1986-91	Associate Professor, Department of Medicinal Chemistry, College of Pharmacy, University of Utah
1983-86	Adjunct Assistant Professor, Department of Chemistry, University of Utah

1983-86 Assistant Professor, Department of Medicinal Chemistry, College of Pharmacy, University of Utah  
1980-83 Assistant Professor, School of Pharmacy, University of Connecticut  
1980 Postdoctoral Fellow, University of Illinois  
1978-80 NIH Postdoctoral Fellow, University of Hawaii

### **Professional/Research Interests**

Marine pharmacognosy, natural products chemistry, structure and mechanism of action of antitumor natural products, marine microbiology, drug discovery, Pharmacy Education, Leadership Development and Mentoring

### **Scientific/Professional Societies**

American Chemical Society-Organic and Medicinal Chemistry Divisions  
American Society of Pharmacognosy  
American Association of Cancer Researchers  
American Association of Colleges of Pharmacy

### **Honors and Distinctions**

2014- Distinguished Professor, University of Utah  
2014 Robert F. Borne Distinguished Lecture Award, University of Mississippi  
2014 Richard Hutchinson Award Lecture, University of Wisconsin  
2014 Paul J. Scheuer Award  
2012 ASP Farnsworth Research Achievement Award  
2010 Taito O. Soine Award, University of Minnesota  
2010- L. S. Skaggs Presidential Endowed Chair for Pharmacy  
2009- Fellow of the American Society of Pharmacognosy  
2008-11 Honorary Research Fellow, Queensland Museum Biodiversity Program  
2008 Short Term Fellow of the Japan Society for the Promotion of Science  
2007 Top 5 percentile for NIH funding worldwide for the past two decades  
2007 Utah Governor's Medal for Science and Technology  
2007 Webster Sibilsky Award for Contributions to the Field of Medicinal Chemistry  
2007 University of Utah, Distinguished Scholarly & Creative Research Award  
2006 University of Utah, Distinguished Graduate Research Mentor Award  
2006 College of Pharmacy, University of Utah, Distinguished Teaching Award  
1987-92 National Institutes of Health Research Career Development Award  
1985-89 Alfred P. Sloan Foundation Fellow  
1981 University of Connecticut Summer Faculty Fellow  
1978-80 National Institutes of Health Postdoctoral Fellow

### **National Public Service Activities and Committee Memberships**

2013- Member, Amgen Schools of Pharmacy Advisory Board  
 2012- Ad Hoc reviewer for ACPE  
 2010-13 Scientific Advisory Board, Eskitis Institute  
 2009- Trustee, Board of Trustees, Skaggs Institute for Research  
 2009-14 Board of Directors, Utah Poison Control Center  
 2009-14 Advisory Board, Utah Addiction Center  
 2009-14 Board of Directors, University of Utah Center on Aging  
 2008-13 National Cancer Institute-Board of Scientific Counselors  
 2008- Internal Advisory Board, Huntsman Cancer Institute  
 2008 Nominating Committee, American Chemical Society, Division of Medicinal Chemistry  
 2007 Organizer, NSF/JSPS-US-Japan Seminar in Marine Natural Products Chemistry  
 2007 Ad Hoc reviewer for the NIDDK Board of Scientific Counselors  
 2005-07 Chair, Conference Committee, American Society of Pharmacognosy  
 2001-04 Chair, Honorary Membership Committee, American Society of Pharmacognosy  
 1998 Chair, Research Achievement Award Committee, American Society of Pharmacognosy  
 1993-96 Chair, Personnel Committee, American Society of Pharmacognosy  
 1993 Chair, Scientific Organizing Committee & Member, Local Committee, Annual Meeting, American Society of Pharmacognosy  
 1992 Chairman, Marine Natural Products Gordon Conference  
 1991-92 President, American Society of Pharmacognosy  
 1990 Co-Chairman, Marine Natural Products Gordon Conference  
 1990-91 Vice-President, American Society of Pharmacognosy  
 1989-93 Bio-organic and Natural Products study section-NIH, subsequently served ad-hoc on numerous study sections and site visit teams  
 1988 Chairman & Host, Annual Meeting, American Society of Pharmacognosy  
 1985-88 Chair, Awards and Funds Committee, American Society of Pharmacognosy

### **Journal Review Activities**

Tetrahedron Letters  
 Journal of the American Chemical Society  
 Journal of Organic Chemistry  
 Journal of Natural Products  
 Tetrahedron  
 Journal of Medicinal Chemistry  
 Marine Drugs  
 Organic Letters  
 Anticancer Drugs  
 Molecular Cancer Therapeutics

## **Editorial Board Membership**

Journal of Natural Products	1999-present
Philippine Journal of Science	1999-present
Marine Drugs	2002-present

## **Consultant/Advisory Positions** (past and *present*)

INI Health, Scientific Advisory Board  
OSI Pharmaceuticals, Scientific Advisory Board  
NPS Pharmaceuticals, Scientific Advisory Board  
Ancile Pharmaceuticals, Scientific Advisory Board  
Eskitis Institute for Cell and Molecular Therapies, Griffith University, Queensland  
Australia, Scientific Advisory Board  
*Huntsman Cancer Institute, CCSG Internal Advisory Board*  
*Amgen Schools of Pharmacy Advisory Board*

## **University Service Activities and Committee Memberships** (past and present)

Combined Programs in Biological Chemistry and Molecular Biology, Executive  
Committee (University)  
Incentive Seed Grants Program (University)  
Biological Chemistry Program steering committee (University)  
College of Pharmacy Executive Committee (College)  
Co-Chair Self Study Committee for Professional Student Standards, 2001 ACPE  
Accreditation (College)  
College of Pharmacy Curriculum Committee (College)  
Computer Advisory Committee (College)  
Instrument Room Committee (College)  
Scholastic Standards Committee (College)  
Awards and Funds Committee (College)  
Chair of Search Committee for Chairperson of the Department of Pharmacology and  
Toxicology (College)  
NMR Committee (Department)  
Department Teaching Committee (Department)

## **Community Outreach Presentations**

College of Pharmacy Ambassadors, University of Utah, January 2008  
Health Science Center Advocates, University of Utah, April 2007  
College of Pharmacy Student Leadership Summit, University of Utah, October 2006  
Health Science Center Council, University of Utah, May 2006  
ERDC, University of Utah, March 2005  
Biotechnology Conference, Salt Lake Community College, March 2003

## University Teaching/Advisory Committees

### Courses Taught (*current teaching assignments*)

PHARM	410	Basics in Pharmaceutical Sciences
PHARM	411	Basics in Pharmaceutical Sciences
<i>PHARM</i>	<i>5113</i>	<i>Basics in Pharmaceutical Sciences</i>
MED CHEM	556	Physiological Chemistry
MED CHEM	561	Natural Products
<i>PHARM</i>	<i>7113</i>	<i>Basics in Pharmaceutical Sciences (Grad)</i>
MED CHEM	601	Instrumental Methods (Grad)
MED CHEM	789	Seminars (Grad)
MED CHEM	652	Natural Product(Grad)
MED CHEM	6990	Chemical Biology(Grad)

### Research Faculty Supervised

Rohan Davis, Ph.D., Research Assistant Professor  
Timothy S. Bugni, Ph.D., Research Assistant Professor  
Ryan Van Wagoner, PhD., Research Associate Professor

### Post Doctoral Fellows Supervised-Current Position

Deborah M. Roll, Ph.D.-Senior Scientist, Wyeth Ayerst Research  
Tadeusz F. Molinski, Ph.D.-Professor, Department of Chemistry, UC-San Diego  
Bradley S. Davidson, Ph.D.-Associate Professor, Department of Chemistry, Utah State University  
Robert R. West, Ph.D.-Senior Scientist, Zymogenetics  
Florecita De Guzman, Professor, Department of Chemistry, University of the Philippines  
Brent D. Copp, Ph.D.-Senior Lecturer, Department of Chemistry, University of Auckland  
Jodi A. Laakso, Ph.D.-Research Scientist, New Chemical Entities, Inc.  
Tommaso A. Foderaro, Ph.D.-Research Scientist, Ciba Gigy  
Todd L. Capson, Ph.D.-AAAS Science & Technology Policy Fellow  
Debra Venables, Ph.D.-Senior Project Officer, Queensland Government  
Cameron J. Smith, Ph.D.-Senior Scientist, Merck  
Deniz Tasdemir, Ph.D.- Professor , Ireland Centre for Marine Science-Galway  
Rohan Davis, Ph.D. - Assistant Lecturer, Natural Products Division, Griffith University  
Damian Laird, Ph.D. - Research Associate, Murdoch University  
Camille Chevalier, Ph.D. - Position Unknown  
Anokha Ratnayake, Ph.D. - Senior Scientist, Pfizer  
Rachel Jadulco, Ph.D. - Associate Professor, School of Pharmacy, University of the Philippines  
Daniel LaBarbera, Ph.D. - Assistant Professor, Department of Pharmaceutical

Sciences, University of Colorado  
Malcolm McCulloch, Ph.D. - Lecturer, Sheffield Hallam University  
Kaleem Mohammed, Ph.D. - University of Utah, School of Medicine, Instructor  
Xiaomei Wei, Ph.D. - Research Associate, University of Illinois at Chicago  
Alan Maschek, Ph.D. - University of Utah, Metabolomics Core Facility  
Zhenyu Lu, Ph.D. - Unknown

#### Students Graduated

Joseph E. Biskupiak, Ph.D., Associate Professor, Department of Pharmacotherapy, University of Utah  
David F. Sesin, Ph.D. - Director of Chemistry, AgraQuest  
T. Mark Zabriskie, Ph.D. - Dean, College of Pharmacy, Oregon State University  
Tawnya C. McKee, Ph.D.- Staff Research Fellow, National Cancer Institute  
Mark P. Foster, Ph.D. - Distinguished Professor, Department of Biochemistry, Ohio State University  
Leonard A. McDonald, Ph.D. - Research Scientist, Chromocell  
J. Christopher Swersey, M.S. - Owner, Little Cloud Adventures and Rafting  
Annette M. Fernandez, Ph.D. - Pharmacoeconomics, Bristol Myers Squibb  
Scott S. Mitchell, Ph.D. -Senior Scientist, Gilead Pharmaceuticals  
Ryan VanWagoner, Ph.D. - Research Associate, Smurtl Drug Testing Lab, University of Utah  
Robyn James, M.S. - Research Associate, Burnham Institute of Medical Research  
Adam Richardson, Ph.D. - Research Assistant Professor, Burnham Institute of Medical Research  
Tim Bugni, Ph.D.- Assistant Professor, College of Pharmacy, University of Wisconsin  
Sheryl Verbitski, Ph.D. - Senior Scientist, ChromaDex  
Imelda Sandoval, Ph.D. - Research Associate, Huntsman Cancer Institute  
Emily Whitson, Ph.D. - Research Scientist, Bayer Agrochemical  
Charles Veltri, Ph.D. - Assistant Professor, Midwestern University

#### Current Graduate Students

Thomas Smith

#### Visiting Scholars Supervised

Giselle Concepcion - Professor, Marine Sciences Institute, University of the Philippines  
Brent Copp - -Senior Lecturer, Department of Chemistry, University of Auckland  
Manah Dindi - Lecturer, School of Medicine, University of Papua New Guinea  
Gina Mangalindan - Research Associate, Marine Science Institute, University of the Philippines

Teatulohi Matainaho - Professor, School of Medicine, University of Papua New Guinea  
Jeffrey Noro - Lecturer, School of Medicine, University of Papua New Guinea  
Funda Yalcin - Faculty of Pharmacy, Hacettepe University

**Grant Awards History (current awards are in italics)**

*ICBG -Fogarty International Center Conservation and Sustainable Use of Biodiversity of Papua New Guinea (Chris M. Ireland and Louis R. Barrows, Co-PIs), \$3,500,000 total costs, 09/25/09 - 09/24/14. (No Cost Extension)*

NIH Grant CA36622-24-28 "Antineoplastic Agents From Marine Organisms" December 1, 2006 to November 31, 2012, \$1,250,000 (direct costs)

NIH Grant CA67786-11-15 "Anticancer Agents from Unique Natural Products Sources" September 26, 2005 to April 30, 2011, \$5,920,782 (total costs)

NIH Grant 1 R43 AI084610-01 "Technology for isolation of Integrase Inhibitors for Therapeutics against Human Immunodeficiency Virus" SBIR with INTEGRATECH PROTEOMICS, INC., September 1, 2009 to August 31, 2011, \$145,000 (total direct costs)

NIH Grant R43AI078554-02 "Methylerythritol Phosphate Pathway Project" SBIR with Echelon Biosciences, February 1, 2008 to January 31, 2010, \$97,969/year (direct costs)

*ICBG -Fogarty International Center Conservation and Sustainable Use of Biodiversity of Papua New Guinea (Chris M. Ireland and Louis R. Barrows, Co-PIs), \$3,500,000 total costs, 09/25/03 - 05/31/09.*

American Cancer Society RSG-02-141-01-CNE (David Jones, PI) Retinoid Biosynthesis in Colon Tumorigenesis 07/02/02 – 06/30/06

NIH Grant CA36622-19-24 "Antineoplastic Agents From Marine Organisms" June 1, 2001 to May 31, 2006, \$1,150,000 (direct costs)

Fogarty – FIRCA R03TW06008-01, HIV and TB Screening of PNG Marine Organisms 08/15/2002 – 07/31/2005, \$90,000 (total costs)

NIH Grant CA67786; "Anticancer Agents from Unique Natural Products Sources" September 8, 2000 to August 31, 2005, \$4,360,000 (total costs)

NIH Grant CA67786; "Anticancer Agents from Unique Natural Products Sources" September 8, 1995 to August 31, 2000, \$2,348,308 (total costs)

NIH Grant "Varian INOVA 600 MHZ NMR Spectrometer" April 1, 1999 to March 31, 2000, \$470,732 (total costs)

DOC, NOAA Grant NA36RG0036; "Metabolite Studies with Marine Microorganisms" July 1, 1996 to June 30, 1999, \$310,000

California Sea Grant College Grant S145-N-N; "Technology for Discovery of Anti-Cancer Drugs from Marine Sources" October 1, 1995 to September 30, 1998, Co-Investigator, \$195,793 (total costs)

NIH Grant S10 RR06262; "500 MHZ NMR Spectrometer" July 18, 1991 to July 17, 1992 \$400,000 (total costs)

NIH Grant CA50750; "National Cooperative Natural Product Drug Discovery Group" September 1, 1989 to June 30, 1994, Co-Investigator, total budget \$2,500,000

NIH Grant CA01179; RCDA April 1, 1987 to March 31, 1992, \$256,000 (direct costs)

NIH Grant 1 S15 CA46245-01; "Silicon Graphics Iris 3130 Work Station," September 30, 1987 to September 29, 1988, \$22,888

Alfred P. Sloan Foundation; September 16, 1985 to September 16, 1987, \$25,000

College of Pharmacy - BRSG; "Cultured Blue-Green Algae" Sept. 1, 1985 to August 30, 1986, \$3,500

University of Utah Research Committee; "Antiviral Agents from Marine Organisms" November 1, 1983 to October 21, 1984, \$5,000

NIH Grant CA29821; "Antineoplastic Agents from Marine Organisms" May 1, 1982 to August 31, 1983, \$86,449

UCRF Grant 35-420; "Marine Molluscs" September 1, 1980 to August 31, 1981, \$9,490

PRF Grant 12730-G4; "Photosynthetic Molluscs" September 1, 1980 to August 31, 1982, \$10,000

## **Publications**

1. Gomez, E.; Faulkner, D.J.; Newman, W.A.; Ireland, C. Juvenile Hormone Mimics: Effect on Cirriped Crustacean Metamorphosis *Science* (1973) *179*, 813-814.
2. Ramenofsky, M.; Faulkner, D.J.; Ireland, C. Effect of Juvenile Hormone on Cirriped Metamorphosis *Biochem. Biophys. Res. Comm.* (1974) *60*, 172-178.
3. Faulkner, D.J.; Stallard, M.O.; Ireland, C.M. Prepacifenol Epoxide, a Halogenated Sesquiterpene Diepoxide *Tetrahedron. Lett.* (1974) *40*, 3571-3574.



4. Ireland, C.; Faulkner, D.J.; Clardy, J.; Finer, J. A Novel Diterpene from *Dolabella californica* *J. Amer. Chem. Soc.* (1976) *98*, 4664.
5. Ireland, C.M.; Stallard, M.O.; Faulkner, D.J. Some Chemical Constituents of the Digestive Gland of the Sea Hare *Aplysia californica* *J. Org. Chem.* (1976) *41*, 2461-2465.
6. Ireland, C. and Faulkner, D.J. Diterpenes from *Dolabella californica* *J. Org. Chem.* (1977) *42*, 3157.
7. Ireland, C.; Faulkner, D.J.; Solheim, B.A.; Clardy, J. Tridachione, a Propionate-Derived Metabolite of the Opisthobranch Mollusc *Tridachiella diomedea* *J. Amer. Chem. Soc.* (1978) *100*, 1002.
8. Ireland, C. and Faulkner, D.J. The Defensive Secretion of the Opisthobranch Molluscs *Onchidella binneyi* *Bioorg. Chem.* (1978) *7*, 125-131.
9. Ireland, C.; Faulkner, D.J.; Clardy, J.; Finer, J. Crispatone, a Metabolite of the Opisthobranch Mollusc *Tridachia crispata* *J. Amer. Chem. Soc.* (1979) *101*, 1275.
10. Ireland, C. and Scheuer, P.J. Photosynthetic Marine Molluscs *Science* (1979) *205*, 922.
11. Ireland, C. and Scheuer, P.J. Ulicyclamide and Ulithiacylamide, Two New Small Peptides from a Marine Tunicate *J. Amer. Chem. Soc.* (1980) *102*, 5688-5691.
12. Ireland, C. and Faulkner, D.J. The Metabolites of the Marine Molluscs *Tridachiella diomedea* and *Tridachia crispata* *Tetrahedron*, (1981) *37*, 233-240.
13. Ireland, C.M.; Durso, A.R., Jr.; Scheuer, P.J. N,N<sup>1</sup> dipenethylurea a Metabolite from the Marine Ascidian *Didemnum ternatanum* *J. Nat. Prod.* (1981) *44*, 360-361.
14. Hochlowski, J.R.; Walker, R.P.; Ireland, C.M.; Faulkner, D.J. Metabolites of Four Nudibranchs of the Genus *Hypselodoris* *J. Org. Chem.* (1982) *47*, 88-91.
15. Ireland, C.M.; Durso, A.R., Jr.; Newman, R.A.; Hacker, M.P. Antineoplastic Cyclic Peptides from the Marine Tunicate *Lissoclinum patella* *J. Org. Chem.* (1982) *47*, 1807-1811.
16. Biskupiak, J.E. and Ireland, C.M. Pectinatone, a New Antibiotic from the Mollusc *Siphonaria pectinata* *Tetrahedron Lett.* (1983) *24*, 3055-3058.
17. Biskupiak, J.E. and Ireland, C.M. The Stereochemistry of Thiazole Amino Acids in Peptides *J. Org. Chem.* (1983) *48*, 2302-2304.
18. Wasyluk, J.M.; Biskupiak, J.E.; Costello, C.E.; Ireland, C.M. Cyclic Peptide Structures from the Tunicate *Lissoclinum patella* by FAB Mass Spectroscopy *J. Org. Chem.* (1983)

48, 4445-4449.

19. Sesin, D.F. and Ireland, C.M. Iodinated Tyramine Derivatives from Marine Tunicate *Tetrahedron Lett.* (1984) 25, 403-404.
20. Ireland, C.M.; Biskupiak, J.E.; Hite, G.J.; Rapposch, M.; Scheuer, P.J.; Ruble, J.R. Ilikonapyrone Esters, Likely Defense Allomones of the Mollusc *Onchidium verruculatum* *J. Org. Chem.* (1984) 49, 559-561.
21. Biskupiak, J.E. and Ireland, C.M. Revised Absolute Configuration of Dysidenin and Isodysidenin *Tetrahedron Lett.* (1984) 25, 2935-2936.
22. Hochlowski, J.E.; Coll, J.C.; Faulkner, D.J.; Biskupiak, J.E.; Ireland, C.M.; Qi-tai, Z.; Cun-heng, H.; Clardy, J. Novel Metabolites from Four *Siphonaria* Species *J. Amer. Chem. Soc.* (1984) 106, 6748-6750.
23. Roll, D.M. and Ireland, C.M. Citorellamine, A New Bromoindole Derivative from *Polycitorella mariae* *Tetrahedron Lett.* (1985) 26, 4303-4306.
24. Biskupiak, J.E. and Ireland, C.M. Cytotoxic Metabolites from the Mollusc *Peronia peronii* *Tetrahedron Lett.* (1985) 26, 4307-4310.
25. Sesin, D.F.; Gaskel, S.; Ireland, C.M. The Chemistry of *Lissoclinum patella* *Bull. Soc. Chim. Belg.* (1986) 95, 853-867.
26. Zabriskie, T.M.; Klocke, J.A.; Ireland, C.M.; Marcus, A.H.; Molinski, T.F.; Faulkner, D.J.; Xu, C.; Clardy, J. Jaspamide, A Modified Peptide from a *Jaspis* sponge, with Insecticidal and Antifungal Activity *J. Amer. Chem. Soc.* (1986) 108, 3123-3124.
27. Roll, D.M.; Biskupiak, J.E.; Mayne, C.L.; Ireland, C.M. Muamvatin, A Novel Tricyclic Spiro Ketal from the Fijian Mollusc *Siphonaria normalis* *J. Amer. Chem. Soc.* (1986) 108, 6680-6682.
28. Moriarity, R.M.; Roll, D.M.; Ku, Y.; Nelson, C.; Ireland, C.M. A Revised Structure for the Marine Bromo-Indole Derivative Citorellamine *Tetrahedron Lett.* (1987) 28, 749-752.
29. McKee, T.C. and Ireland, C.M. Cytotoxic and Antimicrobial Alkaloids from a Fijian *Xestospongia caycedoi* *J. Nat. Prod.* (1987) 50, 754-756.
30. Lindquist, N.; Fenical, W.; Sesin, D.F.; Ireland, C.M.; Van Duyne, G.D.; Forsyth, C.J.; Clardy, J. Isolation and Structure Determination of the Didemnenones, Novel Cytotoxic Metabolites from Tunicates *J. Amer. Chem. Soc.* (1988) 110, 1308-1309.
31. Molinski, T.F. and Ireland, C.M. Dysidazirine, a Cytotoxic Azacyclopropene from the Marine Sponge *Dysidea fragilis* *J. Org. Chem.* (1988) 53, 2103.

32. Roll, D.M. and Ireland, C.M. Fascaplysin, an Unusual Antimicrobial Pigment from the Marine Sponge *Fascaplysinopsis* sp. *J. Org. Chem.* (1988) *53*, 3276.
33. Ireland, C.M.; Roll, D.M.; Molinski, T.F.; McKee, T.C.; Zabriskie, T.M.; Swersey, J.C. Uniqueness of the Marine Chemical Environment: Categories of Marine Natural Products from Invertebrates *Mem. Cal. Acad. Sci.* (1988) *13*, 41-57.
34. Zabriskie, T.M.; Mayne, C.L.; Ireland, C.M. Patellazole C: A Novel Cytotoxic Macrolide from *Lissoclinum patella* *J. Amer. Chem. Soc.* (1988) *110*, 7919-7920.
35. McKee, T.C.; Ireland, C.M. The Complete Spectral Assignment of Didemnin B and Nordidemnin B *Tetrahedron Lett.* (1989) *30*, 3053-56.
36. Charyulu, G.A.; McKee, T.C.; Ireland, C.M. Diplamine, A Cytotoxic Polyaromatic Alkaloid from the Tunicate *Diplosoma* sp. *Tetrahedron Lett.* (1989) *32*, 4201.
37. Zabriskie, T.M. and Ireland, C.M. The Isolation and Structure of Modified, Bioactive Nucleosides from *Jaspis johnstoni* *J. Nat. Prod.* (1989) *52*, 1353-1356.
38. Molinski, T.F.; Ireland, C.M. Varamines A and B, New Cytotoxic Thioalkaloids from *Lissoclinum vareau* *J. Org. Chem.* (1989) *54*, 4256-4259.
39. Zabriskie, T.M.; Foster, M.P.; Stout, T.; Clardy, J.; Ireland C.M. Studies on the Solution- and Solid-State Structure of Patellin 2 *J. Amer. Chem. Soc.* (1990), *112*, 8080-8084.
40. Davidson, B.S. and Ireland, C.M. Lissoclinolide, A Polyketide Lactone from *Lissoclinum patella*. *J. Nat. Prod.* (1990), *53*, 1036-1038.
41. West, R.R.; Ireland, C.M.; Mayne, C.L.; Brinen, L.S.; Clardy, J. Plakinidines: Cytotoxic Alkaloid Pigments from the Fijian Sponge *Plakortis* sp. *Tetrahedron Lett.* (1990) *31*, 3271-3274.
42. Davidson, B.S.; Molinski, T.F.; Barrows, L.R.; Ireland, C.M. Varacin, A Novel Antifungal Polysulfide from *Lissoclinum vareau* *J. Amer. Chem. Soc.* (1991) *113*, 4709-4710.
43. Copp, B.R. and Ireland, C.M. Wakayin: A Novel Cytotoxic Pyrroloiminoquinone Alkaloid from the Ascidian *Clavelina* Species *J. Org. Chem.* (1991) *56*, 4596-4597.
44. Swersey, C.J.; Barrows, L.R.; Ireland, C.M. Mamanuthaquinone: An Antimicrobial and Cytotoxic Metabolite of *Fasciospongia* sp. *Tetrahedron Lett.* (1991) *32*, 6687-6690.
45. McDonald, L.A.; Ireland, C.M. Patellamide E: A New Cyclic Peptide from the Ascidian *Lissoclinum patella* *J. Nat. Prod.* (1992) *55*, 376-379.

46. McDonald, L.A.; Phillips, D.R.; Ireland, C.M. Tawicyclamides A and B: New Cyclic Peptides from the Ascidian *Lissoclinum patella*: Studies on the Solution- and Solid-State Conformations *J. Org. Chem.* (1992) *57*, 4616-4624.
47. Dunkel, R.; Mayne, C.L.; Foster, M.P.; Ireland, C.M.; Du, L.; Owen, N.L.; Pugmire, R.J.; Grant D.M. Applications of the Improved Computerized Analysis of 2D-INADEQUATE Spectra *Anal. Chem.* (1992) *64*, 3150-3160.
48. Foster, M.P.; Mayne, C.L.; Dunkel, R.; Pugmire, R.J.; Grant, D.M.; Kornprobst, J.M.; Verbist, J.F.; Biard, J.F.; Ireland, C.M. The Revised Structure of Bistramide A (Bistratene A): Application of a New Program for the Automated Analysis of 2D INADEQUATE Spectra *J. Amer. Chem. Soc.* (1992) *114*, 1110-1110.
49. Copp, B.R.; Ireland, C.M.; Barrows, L.R. Psammaplysin C: A New Cytotoxic Dibromotyrosine-Derived Metabolite from the Marine Sponge *Druinella* (= *Psammaplysilla purpurea*) *J. Nat. Prod.* (1992) *55*, 822-823.
50. Foster, M.P.; Concepcion, G.P.; Caraan, G.B.; Ireland, C.M. Bistratamides C and D. Two New Oxazole-Containing Cyclic Hexapeptides Isolated from a Philippine *Lissoclinum bistratum* Ascidian *J. Org. Chem.* (1992) *57*, 6671-6675.
51. Radisky, D.C.; Radisky, E.S.; Barrows, L.R.; Copp, B.C.; Kramer, R.A.; Ireland, C.M. Novel Cytotoxic Topoisomerase II Inhibiting Pyrroloiminoquinones from Fijian Sponges of the Genus *Zyzya* *J. Amer. Chem. Soc.* (1993) *115*, 1632-1638.
52. Bernan, V.S.; Roll, D.M.; Ireland, C.M.; Greenstein, M.; Maiese, W.M.; Steinberg, D.A. A Study on the Mechanisms of Action of Sceptrin, an Antimicrobial Agent Isolated from the South Pacific Sponge *Agelas mauritiana* *J. Antimicrob. Chemo.* (1993) *32*, 539-550.
53. Barrows, L.R.; Radisky, D.C.; Copp, B.R.; Swaffar, D.S.; Kramer, R.A.; Warters, R.L.; Ireland, C.M. Makaluvamines, Marine Natural Products, are Active Anti-Cancer Agents and DNA TOPO II Inhibitors *Anti-Cancer Drug Design* (1993) *8*, 333-347.
54. McIntosh, J.M.; Foderaro, T.A.; Wenqin, L.; Ireland, C.M.; Olivera, B.M. Presence of Serotonin in the Venom of *Conus imperialis* *Toxicon* (1993) *31*, 1561-1566.
55. Foster, M.P. and Ireland, C.M. Nairaiamides A and B. Two Novel Di-Proline Heptapeptides Isolated from a Fijian *Lissoclinum bistratum* Ascidian *Tetrahedron Lett.* (1993) *34*, 2871-2874.
56. Swaffer, D.S.; Ireland, C.M.; Barrows, L.R. A Rapid Mechanism-Based Screen to Detect Potential Anti-Cancer Agents *Anti-Cancer Drugs* (1994) *5*, 15-23.
57. Trischman, J.A.; Tapiolas, D.M.; Jensen, P.R.; Dwight, R.; Fenical, W.; McKee, T.C.; Ireland, C.M.; Stout, T.J.; Clardy, J. Salinamides A and B: Anti-Inflammatory Depsipeptides from a Marine Streptomyces *J. Amer. Chem. Soc.* (1994) *116*, 757-758.

58. Swersey, J.C.; Cornell, L.M.; Peterson, R.W.; Ireland, C.M. Eusynstelamide, A Highly Modified Dimer Peptide from the Ascidian *Eusynstyela misakiensis* *J. Nat. Prod.* (1994) 57, 842-845.
59. McDonald, L.A.; Eldredge, G.S.; Barrows, L.R.; Ireland, C.M. Inhibition of Topoisomerase II-Mediated DNA Cleavage by Pyridoacridine Alkaloids from a *Cystodytes* sp. Ascidian: A Mechanism for the Apparent Intercalator-Induced Inhibition of Topoisomerase II *J. Med. Chem.* (1994) 37, 3819-3827.
60. Biard, J.F.; Roussakis, C.; Kornprobst, J.M.; Gouiffes, D.; Verbist, J.F.; Cotelte, P.; Foster, M.P.; Ireland, C.M.; Debitus, C. Bistramides A, B, C, D, and K: A New Class of Bioactive Cyclic Polyethers from *Lissoclinum bistratum* *J. Nat. Prod.* (1994) 57, 1336-1345.
61. McDonald, L.A.; Swersey, J.C.; Ireland, C.M.; Carroll, A.R.; Coll, J.C.; Bowden, B.F.; Fairchild, C.R.; Cornell, L. Botryllamides A-D, New Brominated Tyrosine Derivatives from Styelid Ascidians of the Genus *Botryllus Tetrahedron* (1995) 51, 5237-44.
62. Concepcion, G.P.; Foderaro, T.A.; Eldredge, G.S.; Lobkovsky, E.; Clardy, J.; Barrows, L.R.; Ireland, C.M. Topoisomerase II-Mediated DNA Cleavage by Adocia- and Xestoquinones from the Philippine Sponge *Xestospongia* sp. *J. Med. Chem.* (1995) 38, 4503-7.
63. Kokoshka, J.M.; Ireland, C.M.; Barrows, L.R. A Cell Based Screen for Identification of Microtubulin Inhibitors *J. Nat. Prod.* (1996), 59, 1179.
64. Carroll, A.R.; Coll, J.C.; Bowden, B.F.; Bourne, D.J.; MacLeod, J.K.; Zabriskie, T.M.; Ireland, C.M. Patellins 1-6 and Trunkamide A: Novel Hexa-, Hepta-, and Octa-peptides from Colonial Ascidians, *Lissoclinum* sp. *Aust. J. Chem.* (1996) 49, 659-677.
65. Mitchell, S.S.; Shon, K.J.; Olivera, B.; Ireland, C.M. NMR Structures of Conotoxins *J. Nat. Tox.* (1996) 5, 191-208.
66. McDonald, L.A.; Capson, T.L.; Krishnamurthy, G. Ding, W.; Ellestad, G.A.; Bernan, V.S.; Maiese, W.M.; Lassota, P.; Discafani, C.; Kramer R.A.; Ireland, C.M. Namenamicin, a New Eneidyne Antitumor Antibiotic from the Marine Ascidian *Polysyncraton lithostrotum* *J. Amer. Chem. Soc.* (1996) 118, 10898-10899.
67. Kokoshka, J.M.; Capson, T.L.; Holden, J.A.; Ireland, C.M.; Barrows, L.R. Differences in the topoisomerase I cleavage complexes formed by camptothecin and wakayin, a DNA-intercalating marine natural product *Anti-Cancer Drugs* (1996) 7, 758-765.
68. Mitchell, S.S.; Pomerantz, S.; Concepcion, G.P.; Ireland, C.M. Tubercidin Analogs from the Ascidian *Didemnum voeltzkowi* *J. Nat. Prod.* (1996) 59, 1000-1001.

69. Venables, D. A.; Barrows, L. R.; Lassota, P.; Ireland, C.M. Veiutamine. A New Alkaloid from the Fijian Sponge *Zyzzya fuliginosa Tetrahedron Lett.* (1997) 38, 721-22.
70. Venables, D. A.; Concepcion, G.; Matsumoto, S.; Barrows, L. R.; Lassota, P.; Ireland, C.M. Makaluvamine N: A New Pyrroloiminoquinone from *Zyzzya fuliginosa J. Nat. Prod.* (1997) 60, 408-10.
71. Mitchell, S.S.; Whitehill, A.B.; Trapido-Rosenthal, H.G.; Ireland, C.M. Isolation and Characterization of 1, 3-Dimethylisoguanine from the Bermudian Sponge *Amphimedon viridis J. Nat. Prod.* (1997) 60, 727-8.
72. Foderaro, T.A.; Barrows, L.R.; Ireland, C.M. Bengacarboline, a New  $\beta$ -Carboline from a Marine Ascidian, *Didemnum* sp. *J. Org. Chem.* (1997), 62, 6060-65.
73. Smith, C.J.; Venables, D.A.; Hopmann, C.; Salomon, C.E.; Jompa, J.; Tahir, A.; Faulkner, D.J.; Ireland, C.M. Plakinidine D, A New Pyrroloacridine Alkaloid from Two Ascidians of the Genus *Didemnum J. Nat. Prod.* (1997) 60, 1048-50.
74. Mitchell, S.S.; Shon, K.J.; Foster, M.P.; Olivera, B.M.; Ireland, C.M. Three-Dimensional Solution Structure of Conotoxin  $\psi$ -PIIIIE, An Acetyl Choline Gated Ion Channel Antagonist *Biochemistry* (1998) 37, 1215-20.
75. Mckee, T.C.; Galinis, D.L.; Pannell, L.K.; Cardellina J.H. II; Laakso, J.; Ireland, C.M.; Murray, L.; Capon, R.J.; Boyd, M.R. The Lobatamides, Novel Cytotoxic Macrolides from Southwestern Pacific Tunicates *J. Org. Chem.* (1998) 63, 7805-10.
76. Smith, C.J.; Hettich, R.L.; Jompa, J.; Tahir, A.; Buchanan, M.V.; Ireland, C.M. Cadiolides A and B, New Metabolites from an Ascidian of the Genus *Botryllus J. Org. Chem.* (1998) 63, 4147-50.
77. Copp, B.R.; Fairchild, C.R.; Cornell, L.; Casazza, A.M.; Robinson, S.; Ireland, C.M. Naamadine A is an Antagonist of the EGF Receptor and an *In Vivo* Active Antitumor Agent *J. Med. Chem.* (1998) 41, 3909-11.
78. Copp, B.R.; Jompa, J.; Tahir, A.; Ireland, C.M. Styelsamines A - D: New Tetracyclic Pyrroloacridine Alkaloids from the Indonesian Ascidian *Eusynstyela* sp. *J. Org. Chem.* (1998) 63, 8024-26.
79. DeGuzman, F.S.; Copp, B.R.; Mayne, C.L.; Concepcion, G.P.; Mangalindan, G.C.; Barrows, L.R.; Ireland, C.M. Bolinaquinone: A Novel Cytotoxic Sesquiterpene Hydroxyquinone from a Philippine *Dysidea* Sponge, *J. Org. Chem.* (1998) 63, 8042-44.
80. Fernandez, A.M.; He, H.; McDonald, L.A.; Lassota, P.; Discafani, C.; Sorensen, E.F.; Edler, M.C.; Barrows, L.B.; Clardy, J.C.; Ireland, C.M. Structural studies of marine peptides. *Pure Appl. Chem.* (1998) 70, pp. 2130;

<http://www.iupac.org/symposia/proceedings/phuket97/fernandez.html>

81. Matsumoto, S.S.; Haughey, H.M.; Schmechl, D.M.; Venables, D.A.; Ireland, C.M.; Holden, J.A.; Barrows, L.R. Makaluvamines Vary in Ability to Induce DNA Cleavage Via Topoisomerase II Interaction *Anti-Cancer Drugs* (1999) *10*, 39-45.
82. DeGuzman, F.S.; Carte, B.; Troupe, N.; Faulkner, D.J.; Harper, M.K.; Concepcion, G.P.; Mangalindan, G.C.; Matsumoto, S.S.; Barrows, L.R.; Ireland, C.M. Neoamphimedine: A New Pyridoacridine Topoisomerase II Inhibitor which catenates DNA, *J. Org. Chem.* (1999) *64*, 1400-02.
83. Van Wagoner, R.M.; Jompa, J.; Tahir, A.; Ireland, C.M. Trypargine Alkaloids from a Previously Undescribed *Eudistoma* sp. Ascidian *J. Nat. Prod.* (1999) *62*, 794-97.
84. Lindsay, B.S.; Almeida, A.M.P.; Smith, C.J.; Berlinck, R.G.S. 6-Methoxy-7-methyl-8-oxoguanine, an Unusual Purine from the Ascidian *Symplegma rubra* *J. Nat. Prod.* (1999) *62*, 1573-75.
85. Smith, C.J.; Abbanat, D.; Bernan, V.S.; Maiese, W.M.; Greenstein, M.; Jompa, J.; Tahir, A.; Ireland, C.M. Novel Polyketide Metabolites from a Species of Marine Fungi *J. Nat. Prod.* (2000) *63*, 142.
86. Bugni, T.S.; Abbanat, D.; Bernan, V.S.; Maiese, W.M.; Greenstein, M.; Van Wagoner, R.M.; Ireland, C.M. Yanuthones: Novel Metabolites from a Marine Isolate of *Aspergillus niger* *J. Org. Chem.* (2000) *65*, 7195-7200.
87. Mangalindan, G.C.; Talaue, M.T.; Cruz, L.C.; Franzblau, S.G.; Adams, L.B.; Richardson, A.D.; Ireland, C.M.; Concepcion, G.P. Agelasine F from a Philippine *Agelas* sp. Sponge Exhibits *in vitro* Antituberculosis Activity *Planta Med.* (2000) *66*, 364-5.
88. Ersoz, T.; Berkman, M.Z.; Tasdemir, D.; Ireland, C.M.; Calis, I. An Iridoid Glucoside from *Euphrasia pectinata* *J. Nat. Prod.* (2000) *63*, 1449-50.
89. Tasdemir, D.; Concepcion, G.P.; Mangalindan, G.C.; Harper, M.K.; Hajdu, E.; Ireland, C.M. New Terpenoids from a *Cacospongia* sp. from the Philippines *Tetrahedron* (2000) *56*, 9025-30.
90. Tasdemir, D.; Marshall, K.M.; Mangalindan, G.C.; Concepcion, G.P.; Harper, M.K.; Barrows, L.R.; Ireland, C.M. Deoxyamphimedine, A New Pryridoacridine Alkaloid from Two Tropical *Xestospongia* sponges *J. Org. Chem.* (2001) *66*, 3246-48.
91. He, H.; Ding, W.-D.; Bernan, V.S.; Richardson, A.D.; Ireland, C.M.; Greenstein, M.; Ellestad, G.A.; Carter, G.T. Lomaiviticins A and B, Potent Antitumor Antibiotics from *Micromonospora lomaivitiensis*. *J. Am. Chem. Soc.* (2001) *123*, 5362-63.
92. Tasdemir, D.; Mangalindan, G.C.; Concepcion, G.P.; Harper, M.K.; Ireland, C.M. 3,7-

- Dimethylguanine, A New Purine from a Philippine Sponge *Zyzya fuliginosa* *Chem. Pharm. Bull.* (2001) 49, 1628-30.
93. Van Wagoner, R.M.; Jompa, J.; Tahir, A.; Ireland, C.M. A Novel Modified Pterin from a *Eudistoma* sp. Ascidian *J. Nat. Prod.* (2001) 64, 1100-1101.
  94. Calis, I.; Tasdemir, D.; Heilmann, J.; Linden, A.; Ireland, C.M.; Sticher, O. Flavonoid, Iridoid and Lignan Glycosides from *Putoria calabrica* *J. Nat. Prod.* (2001) 64, 961-64.
  95. Tasdemir, D.; Concepcion, G.P.; Mangalindan, G.C.; Harper, M.K.; Hajdu, E.; Ireland, C.M. Corrigendum to "New Terpenoids from a *Cacospongia* sp. from the Philippines *Tetrahedron* (2000) 56, 9025-30" *Tetrahedron* (2001) 57, 5681.
  96. Tasdemir, D.; Mangalindan, G.C.; Concepción, G.P.; Verbitski, S.M.; Rabindran, S.; Miranda, M.; Greenstein, M.; Hooper, J.N.A.; Harper, M.K.; Ireland, C.M. Bioactive Isomalabaricane Triterpenes from the Marine Sponge *Rhabdastrella globostellata* *J. Nat. Prod.* (2002) 65, 210-14.
  97. Tasdemir, D.; Mallon, R.; Greenstein, M.; Feldberg, L.R.; Kim, S.C.; Collins, K.; Wojciechowicz, W.; Mangalindan, G.C.; Concepción, G.P.; Harper, M.K.; Ireland, C.M. Aldisine Alkaloids from the Philippine Sponge *Stylissa massa* are Potent Inhibitors of Mitogen-Activated Protein Kinase Kinase-1 (MEK-1) *J. Med. Chem.* (2002) 45, 529-32.
  98. Edler, M.C.; Fernandez, A.M.; Lassota, P.; Ireland, C.M.; Barrows, L.R. Inhibition of Tubulin Polymerization by Vitilevuamide, a Bicyclic Marine Peptide, at a Site Distinct from Colchicine, the Vinca Alkaloids and Dolastatin 10 *Biochem. Pharm.* (2002) 63, 707-15.
  99. Ersoz, T.; Berkman, M.Z.; Tasdemir, D.; Calis, I.; Ireland, C.M. Iridoid and Phenylethanoid Glycosides from *Euphrasia pectinata* *Turk. J. Chem.* (2002) 26, 179-88.
  100. Verbitski, S.M.; Mayne, C.L.; Davis, R.A.; Concepcion, G.P.; Ireland, C.M. Isolation, structure determination, and biological activity of a novel alkaloid, perophoramidine, from the Philippine ascidian *Perophora namei*. *J. Org. Chem.* (2002) 67, 7124-7126.
  101. Davis, R.A.; Aalbersberg, W.; Meo, S.; da Rocha, R.M.; Ireland, C.M. The isolation and synthesis of polyandrocaramines A and B. Two new 2-aminoimidazolone compounds from the Fijian ascidian, *Polyandrocarpa* sp. *Tetrahedron* (2002) 58, 3263-3269.
  102. Torres, Y.R.; Bugni, T.S.; Berlinck, R.G.S.; Ireland, C.M.; Magalhaes, A.; Ferreira, A.G.; da Rocha, R.M. Sebastianines A and B, novel biologically active pyridoacridine alkaloids



- from the Brazilian ascidian *Cystodytes dellechiaiei* *J. Org.Chem.* (2002) 67, 5429-5432.
103. Bugni, T.S.; Concepcion, G.P.; Mangalindan, G.C.; Harper, M.K.; James, R.D.; Ireland, C.M. p-Sulfooxyphenylpyruvic acid from the red macro alga *Ceratodictyon spongiosum* and its sponge symbiont *Haliclona cymaeformis* *Phytochemistry* (2002) 60, 361-363.
  104. Kirmizibekmez, H.; Tasdemir, D.; Ersoz, T.; Ireland, C.M. A new pregnane glycoside and a furostanol glycoside from *Digitalis cariensis* *Pharmazie*, (2002) 57, 716-720.
  105. Calis, I.; Kirmizibekmez, H.; Tasdemir, D.; Sticher, O.; Ireland, C.M. Sugar esters from *Globularia orientalis* *Z. Naturforsch.* (2002) 57C, 591-596.
  106. Ersoz, T.; Tasdemir, D.; Calis, I.; Ireland, C.M. Phenylethanoid glycosides from *Scutellaria galericulata* *Turk. J. Chem.* (2002) 26, 465-471.
  107. Ersoz, T.; Saracoglu, I.; Tasdemir, D.; Kirmizibekmez, H.; Donmez, A.A.; Ireland, C.M.; Calis, I. Neolignan glucosides from *Phlomis chimerae* Boiss *Z. Naturforsch.* (2002) 57C, 221-225.
  108. Calis, I.; Kirmizibekmez, H.; Tasdemir, D.; Ireland, C.M. Iridoid glycosides from *Globularia davisiana*. *Chem. Pharm. Bull.* (2002) 50, 678-680.
  109. Calis, I.; Tasdemir, D.; Ireland, C.M.; Sticher, O. Lucidin type anthraquinone glycosides from *Putoria calabrica* *Chem. Pharm. Bull* (2002) 50, 701-702.
  110. Edler, M.C.; Ireland, C.M.; Barrows, L.R. Phage display derived peptide drug candidates against tubulin: Comparison to traditional natural product discover *Proceedings of the American Association for Cancer Research Annual Meeting.* (2002) 43, 1157.
  111. Marshall, K.M.; Matsumoto, S.S.; Ireland, C.M.; Holden, J.A.; Barrows, L.R. Neoamphimedine, a unique topoisomerase II drug *Proceedings of the American Association for Cancer Research Annual Meeting* (2002) 43,1156.
  112. Tasdemir, D.; Bugni, T.S.; Mangalindan, G.C.; Concepción, G.P.; Harper, M.K.; Ireland, C.M. Cytotoxic Bromoindole Derivatives and Terpenes from the Philippine Marine Sponge *Smenospongia* sp. *Z. Naturforsch.* (2002) 57C, 914-922.
  113. Tasdemir, D.; Bugni, T.S.; Mangalindan, G.C.; Concepción, G.P.; Harper, M.K.; Ireland, C.M. Bisabolone Type Sesquiterpenes from a Marine *Didiscus* Sponge *Turk. J. Chem.* (2002) 26, 1-7.
  114. Bugni, T.S.; Bernan, V.S.; Greenstein, M.; Janso, J.E.; Maiese, W.M.; Mayne, C.L.;

- Ireland, C.M. Brocaenols A-C: Novel Polyketides from a Marine-Derived *Penicillium brocae* *J. Org.Chem.* (2003) 68, 2014-17.
115. Marshall, K.M.; Matsumoto, S.S.; Holden, J.A.; Concepción, G.P.; Tasdemir, D.; Ireland, C.M.; Barrows, L.R. The Anti-Neoplastic and Novel Topoisomerase II Mediated Cytotoxicity of Neoamphimedine, a Marine Pyridoacridine. *Biochem. Pharm.* (2003) 66, 447-58.
116. VanWagoner, R.M.; Ireland, C.M. An Improved Solution Structure for  $\psi$ -Conotoxin PIIIE *Biochemistry* (2003) 42, 6347-52.
117. VanWagoner, R.M.; Jacobson, R.B.; Olivera, B.M. Ireland, C.M. Characterization and Three-Dimensional Structure Determination of  $\gamma$ -Conotoxin PIIIF, a Novel Noncompetitive Antagonist of Nicotinic Acetylcholine Receptors *Biochemistry* (2003) 42, 6353-62.
118. Davis, R.A.; Sandoval, I.T.; Concepcion, G.P.; Moreira da Rocha, R.; Ireland, C.M. Lissoclinotoxins E and F, Novel Cytotoxic Alkaloids from a Philippine Didemnid Ascidian *Tetrahedron* (2003) 59, 2855 - 59.
119. James, R.D.; Jones, D.A.; Aalbersberg W.; Ireland, C.M. Naamidine A Intensifies the Phosphotransferase Activity of Extracellular Signal-regulated Kinases Causing A-431 Cells to Arrest in G<sub>1</sub> *Mol. Cancer Ther.* (2003) 2, 747-751.
120. Chevallier, C.; Richardson, A.D.; Edler, M.C.; Hamel, E.; Harper, M.K.; Ireland C.M. A new cytotoxic and tubulin-interactive milnamide derivative from a marine sponge *Cymbastela* sp. *Org Lett.* (2003) 5, 3737-9.
121. Sandoval, I.T.; Davis, R.A.; Bugni, T.S.; Concepcion, G.P.; Harper, M.K.; Ireland, C.M. Cytotoxic Isoquinoline quinones from sponges of the genus *Petrosia* *Nat. Prod. Res.* (2003) 18, 89-93.
122. Davis, R.A.; Christensen, L.V.; Richardson, A.D.; Moreira da Rocha, R.; Ireland, C.M. Rigidin E, a New Pyrrolopyrimidine Alkaloid from a Papua New Guinea Tunicate, *Eudistoma* sp. *Mar Drugs* (2003) 1, 27-33.
123. Pimentel, S.M.; Bojo, Z.P.; Roberto, A.V.; Lazaro, J.E.; Mangalindan, G.C.; Florentino, L.M.; Lim-Navarro, P.; Tasdemir, D.; Ireland, C.M.; Concepcion, G.P. Platelet Aggregation Inhibitors from Philippine Marine Invertebrate Samples Screened in a New Microplate Assay *Mar. Biotechnol.* (2003) 5, 395-400.
124. Ireland, C.M.; Aalbersberg, W.; Andersen, R.J.; Ayral-Kaloustian, S.; Berlinck, R.; Bernan, V.S.; Carter, G.T.; Churchill, A.C.L.; Clardy, J.; Concepcion, G.P.; De Silva, E.D.; Discafani, C.; Fojo, T.; Frost, P.; Gibson, D.; Greenberger, L.M.; Greenstein, M.; Harper, M.K.; Mallon, R.; Loganzo, F.; Nunes, M.; Poruchynsky, M.S.; Zask, A. Anticancer Agents from Unique Natural Products Sources *Pharm. Bio.* (2003) 41,

Supplement, 15-38.

125. Gazar, H.A.; Tasdemir, D.; Ireland, C.M.; Calis, I. Irinoids and triterpene saponins from *Verbascum wiedemannianum*. *Biochem. Syst. Ecol.* (2003) 31, 433-36.
126. Verbitski, S.M.; Mullally, J.E.; Fitzpatrick, F.A.; Ireland, C.M. Punaglandins, Chlorinated Prostaglandins, Function as Potent Michael Receptors to Inhibit Ubiquitin Isopeptidase Activity *J. Med. Chem.* (2004) 47, 2062-70.
127. Davis, R.A.; Mangalindan, G.C.; Bojo, Z.P.; Antemano, R.R.; Rodriguez, N.O.; Concepcion, G.P.; Samson, S.C.; de Guzman, D.; Cruz, L.J.; Tasdemir, D.; Harper, M.K.; Feng, X.; Carter, G.T.; Ireland, C.M. Microcionamides A and B, Bioactive Peptides from the Philippine Sponge *Clathria (Thalysias) abietina* *J. Org.Chem.* (2004) 69, 4170-76.
128. Bugni, T.S.; Janso, J.E.; Williamson, R.T.; Feng, X. Bernan, V.S.; Greenstein, M.; Carter, G.T.; Maiese, W.M.; Ireland, C.M. Dictyosphaeric acids A and B: Novel metabolites from an undescribed *Penicillium* sp. obtained from the alga *Dictyosphaeria versluyii* *J. Nat. Prod.* (2004) 67, 1396-99.
129. Richardson, A.D.; Ireland, C.M. A profile of the in vitro antitumor activity of lissoclinolide *Tox. App. Pharm.* (2004) 195, 55-61.
130. Bugni, T.S.; Singh, M.P.; Chen, L.; Arias, D.A.; Harper, M.K.; Greenstein, M.; Maiese, M.M.; Concepcion, G.P.; Mangalindan, G.C.; Ireland, C.M. Kalihinols from two *Acanthella cavernosa* sponges: inhibitors of bacterial folate biosynthesis *Tetrahedron* (2004) 60, 6981-88.
131. Andersen, R.J.; Ireland, C.M.; Molinski, T.F.; Bewley, C.A. Research Achievement Award-D. John Faulkner *J. Nat. Prod.* (2004) 67, 1239-51.
132. Jette, C.; Peterson, P.W.; Sandoval, I.T.; Manos, E.J.; Hadley, E.; Ireland, C.M.; Jones, D.A. The tumor suppressor adenomatous polyposis coli and caudal related homeodomain protein regulate expression of retinol dehydrogenase L. *J. Biol. Chem.* (2004) 279, 34397-405.
133. Bobzin, S.C.; Cardellina, J.H. 2nd; Gerwick, W.H.; Okuda, R.K.; Harper, M.K.; Ireland, C.M. Special issue in honor of D. John Faulkner and Paul J. Scheuer *J. Nat. Prod.* (2004) 67, 1201-3.
134. Ratnayake, A.S; Davis, R.A.; Harper, M.K.; Veltri, C.A.; Andjelic, C.D.; Barrows, L.R.; Ireland, C.M. Aurantosides G, H, and I: three new tetramic acid glycosides from a Papua New Guinea *Theonella swinhoei*. *J. Nat. Prod.* (2005) 68, 104-7.
135. Richardson, A.D., Aalbersberg, W.; Ireland, C.M. The patellazoles inhibit protein

- synthesis at nanomolar concentrations in human colon tumor cells. *Anti-Cancer Drugs* (2005) *16*, 533-41.
136. Janso, J.E.; Bernan, V.S.; Greenstein, M.; Bugni, T.S.; Ireland, C.M. *Penicillium dravuni*, a new marine-derived species from an alga in Fiji. *Mycologia* (2005) *97*, 444-53.
137. Dijoux, M.G.; Schnabel, P.C.; Hallock, Y.F.; Boswell, J.L.; Johnson, T.R.; Wilson, J.A.; Ireland, C.M.; van Soest, R.; Boyd, M.R.; Barrows, L.R.; Cardellina, J.H. 2<sup>nd</sup> Antitumor activity and distribution of pyrroloiminoquinones in the sponge genus *Zyzya*. *Bioorg. Med. Chem.* (2005) *13*, 6035-44.
138. Chevallier, C.; Bugni, T.S.; Feng, X.; Harper, M.K.; Orendt, A.M.; Ireland, C.M. Tedanolide C: a potent new 18-membered ring cytotoxic macrolide isolated from the Papua New Guinea marine sponge *Ircinia* sp. *J. Org. Chem.* (2006) *71*, 2510-13.
140. Alexander, M.D.; Burkart, M.D.; Leonard, M.S.; Portonovo, P.; Liang, B.; Ding, X.; Joullié, M.M.; Gullledge, B.M.; Aggen, J.B.; Chamberlin, A.R.; Sandler, J.; Fenical, W.; Jui, C.; Gharpure, S.J.; Polosukhin, A.; Zhang, H.R.; Evans, P.A.; Richardson, A.D.; Harper, M.K.; Ireland, C.M.; Vong, B.G.; Brady, T.P.; Theodorakis, E.A.; La Clair, J.J. A unified strategy for converting natural products into fluorescent probes *ChemBioChem*, (2006) *7*, 409-16.
141. Ratnayake, A.S.; Bugni, T.S.; Veltri, C.A.; Skalicky, J.J.; Ireland, C.M. Chemical transformation of prostaglandin-A2: a novel series of C-10 halogenated, C-12 hydroxylated prostaglandin-A2 analogues *Org Lett.* (2006) *8*, 2171-4.
142. Shelton, D.N.; Sandoval, I.T.; Eisinger, A.; Chidester, S.; Ratnayake, A.; Ireland, C.M.; Jones, D.A. Up-regulation of CYP26A1 in adenomatous polyposis coli-deficient vertebrates via a WNT-dependent mechanism: implications for intestinal cell differentiation and colon tumor development. *Cancer Res.* (2006) *66*, 7571-7.
143. Nadauld, L.D.; Chidester, S.; Shelton, D.N.; Rai, K.; Broadbent, T.; Sandoval, I.T.; Peterson, P.W.; Manos, E.J.; Ireland, C.M.; Yost, H.J.; Jones, D.A. Dual roles for adenomatous polyposis coli in regulating retinoic acid biosynthesis and Wnt during ocular development. *Proc Natl Acad Sci U S A.* (2006) *103*, 13409-14.
144. Ratnayake, A.S.; Bugni, T.S.; Feng, X.; Harper, M.K.; Skalicky, J.J.; Mohammed, K.A.; Andjelic, C.D.; Barrows, L.R.; Ireland, C.M. Theopapuamide, a cyclic depsipeptide from a Papua New Guinea lithistid sponge *Theonella swinhoei*. *J. Nat. Prod.* (2006) *69*, 1582-1586.
145. Whitson, E.L.; Mala, S.M.; Veltri, C.A.; Bugni, T.S.; de Silva, E.D. Ireland, C.M. Oppositines A and B, sesquiterpene pyridine alkaloids from a Sri Lankan *Pleurostyliopsis opposita*. *J. Nat. Prod.* (2006) *69*, 1833-1835.

146. Lazaro, J.E.; Nitcheu, J.; Mahmoudi, N.; Ibana, J.A.; Mangalindan, G.C.; Black, G.P.; Howard-Jones, A.G.; Moore, C.G.; Thomas, D.A.; Mazier, D.; Ireland, C.M.; Concepcion, G.P.; Murphy, P.J.; Diquet, B. Antimalarial activity of crambescidin 800 and synthetic analogues against liver and blood stage of *Plasmodium* sp. *J. Antibiot.* (2006) *59*, 583-90.
147. Lira, S.P.; Vita-Marques, A.M.; Seleghim, M.H.; Bugni, T.S.; LaBarbera, D.V.; Sette, L.D.; Sponchiado, S.R.; Ireland, C.M.; Berlinck, R.G. New destruxins from the marine-derived fungus *Beauveria felina*. *J. Antibiot.* (2006) *59*, 553-63.
148. Laird, D.W.; Labarbera, D.V.; Feng, X.; Bugni, T.S.; Harper, M.K. Ireland CM. Halogenated cyclic peptides isolated from the sponge *Corticium* sp. *J Nat Prod.* (2007) *70*, 741-6.
149. Hoang, H.; LaBarbara, D.V.; Mohammed, K.A.; Ireland, C.M.; Skibo, E.B. Synthesis and biological evaluation of imidazoquinoxalinones, imidazole analogues of pyrroloiminoquinone marine natural products *J. Med. Chem.* (2007) *50*, 4561-71.
150. LaBarbara, D.V.; Bugni, T.S.; Ireland, C.M. The Total Synthesis of Neoamphimedine *J. Org. Chem.* (2007) *72*, 8501-5.
151. de Guzman, A.; Predicala, R.; Bernardo, E.; Neilan, B.; Elardo, S.; Mangalindan, G.; Tasmir, D.; Ireland, C.M.; Concepcion, G. *Pseudovibrio denitrificans* strain Z143-1, heptylprodigiosin-producing bacterium isolated from a Philippine tunicate *FEMS Microbiology Letters* (2007) *277*, 188-96.
152. Mohammed, K.A.; Jadulco, R.C., Bugni, T.S.; Harper, M.K.; Sturdy, M.; Ireland, C.M. Strongylophorines: natural product inhibitors of hypoxia-inducible factor-1 transcriptional pathway *J. Med. Chem.* (2008) *51*, 1402-5.
153. Bugni, T.S.; Richards, B.; Bhoite, L.; Cimbor, D.; Harper, M.K.; Ireland, C.M. Marine natural product libraries for high-throughput screening and rapid drug discovery. *J Nat. Prod.* (2008) *71*, 1095-98.
154. Noro, J.C.; Barrows, L.R.; Gideon, O.G.; Ireland, C.M.; Koch, M.; Matainaho, T.; Piskaut, P.; Pond, C.D.; Bugni, T.S. Tetrahydroxysqualene from *Rhus taitensis* shows antimycobacterial activity against *Mycobacterium tuberculosis*. *J. Nat. Prod.* (2008) *71*, 1623-24.
155. Bugni, T.S.; Harper, M.K.; McCulloch, M.W.B.; Reppart, J.; Ireland, C.M. Fractionated Marine Invertebrate extract libraries for drug discovery. *Molecules* (2008) *13*, 1372-83.
156. Whitson, E.L.; Bugni, T.S.; Chockalingam, P.S.; Concepcion, G.P.; Harper, M.K.; He,

- M.; Hooper, J.N.A.; Mangalindan, G.C.; Ritacco, F.; Ireland, C.M. Spheciosterol sulfates, PKC $\zeta$  inhibitors from a Philippine sponge *Spheciospongia* sp. *J Nat. Prod.* (2008) 71, 1213-7.
157. McCulloch, M.W.B.; Coombs, G.S.; Banerjee, N.; Bugni, T.S.; Cannon, K.M.; Harper, M.K.; Veltri, C.A.; Virshup, D.M.; Ireland, C.M. Psammaphin A as a general activator of cell based signaling assays via HDAC inhibition and studies on some bromotyrosine derivatives. *Bioorg. Med. Chem.* (2009) 17, 2189-98.
158. Whitson, E.L.; Ratnayake, A.S.; Bugni, T.S.; Harper, M.K.; Ireland, C.M. Isolation, structure elucidation, and synthesis of eudistomides A and B, lipopeptides from a Fijian ascidian *Eudistoma* sp. *J. Org. Chem.* (2009) 74, 1156-62.
159. Bugni, T.S.; Andjelic, C.D.; Pole, A.R.; Rai, P.; Ireland, C.M.; Barrows, L.R. Biologically active components of a Papua New Guinea analgesic and anti-inflammatory lichen preparation. *Fitoterapia* (2009) 80, 270-3.
160. Labarbera, D.V.; Modzelewska, K.; Glazar, A.I.; Gray, P.D.; Kaur, M.; Liu, T.; Grossman, D.; Harper, M.K.; Kuwada, S.K.; Moghal, N.; Ireland, C.M. The marine alkaloid naamidine A promotes caspase-dependent apoptosis in tumor cells. *Anticancer Drugs* (2009) 20, 425-36.
161. Koch, M.; Bugni, T.S.; Pond, C.D.; Sondossi, M.; Dindi, M.; Piskaut, P.; Ireland, C.M.; Barrows, L.R. Antimycobacterial activity of *Exocarpos latifolius* is due to exocarpic acid. *Planta Med.* (2009) 75, 1326-30
162. Whitson, E.L.; Bugni, T.S.; Chockalingam, P.; Concepcion, G.; Feng, X.; Jin, G.; Harper, Mary Kay; Mangalindan, G.; McDonald, L.A.; Ireland, C.M. Fibrosterol sulfates from the Philippine sponge *Lissodendoryx (Acanthodoryx) fibrosa*; Sterol dimers that inhibit PKC $\zeta$ . *J. Org. Chem.* (2009) 74, 5902-08.
163. Barrows, L.R.; Matainaho, T.K.; Ireland, C.M.; Miller, S.; Carter, G.T.; Bugni, T.; Rai, P.; Gideon, O.; Manoka, B.; Piskaut, P.; Banka, R.; Kiapranis, R.; Noro, J.N.; Pond, C.D.; Andjelic, C.D.; Koch, M.; Harper, M.K.; Powan, E.; Pole, A.R.; Jensen, J.B. Making the most of Papua New Guinea's biodiversity: Establishment of an integrated set of programs that link botanical survey with pharmacological assessment in "The Land of the Unexpected" *Pharm Biol.* (2009) 47, 795-808.
164. Marshall, K.M.; Andjelic, C.D.; Tasdemir, D.; Concepción, G.P.; Ireland, C.M.; Barrows, L.R. Deoxyamphimedine, a pyridoacridine alkaloid, damages DNA via the production of reactive oxygen species. *Mar. Drugs* (2009) 25, 196-209.
165. McCulloch, M.W.B.; Bugni, T.S.; Concepcion, G.P.; Coombs, G.S.; Harper, M.K.; Kaur, S.; Mangalindan, G.C.; Mutizwa, M.M.; Veltri, C.A.; Virshup, D.M.; Ireland, C.M.

- Carteriosulfonic acids A–C, GSK-3 $\beta$  inhibitors from a *Carteriospongia* sp. *J. Nat. Prod.* (2009) 72, 1651-6.
166. Coombs, G.S.; Jia, Y.; Canning, C.A.; Veltri, C.A.; Covey, T.M.; Cheong, J.K.; Utomo, V.; Banerjee, N.; Zhang, Z.H.; Jadulco, R.C.; Concepcion, G. P.; Bugni, T.S.; Harper, M.K.; Mihalek, C.; Jones, C.M., Ireland, C.M.; Virshup, D.M. WLS-dependent secretion of WNT3A requires Ser209 acylation and vacuolar acidification *J. Cell Sci.* (2010) 123, 3357-3367.
  167. Pimentel-Elardo, S.M.; Kozytska, S.; Bugni, T.S.; Ireland, C.M.; Moll, H.; Hentschel, U. Anti-parasitic compounds from *Streptomyces* sp. Strains isolated from mediterranean sponges *Mar. Drugs* (2010) 8, 373-380.
  168. Koch, M.; Bugni, T.S.; Sondossi, M.; Ireland, C.M.; Barrows, L.R. Exocarpic Acid Inhibits Mycolic Acid Biosynthesis in Mycobacterium tuberculosis *Planta Med.* (2010) 76, 1678-82
  169. Wei, X.; Bugni, T.S.; Harper, M.K.; Sandoval, I.T.; Manos, E.J.; Swift, J.; Van Wagoner, R.M.; Jones, D.A.; Ireland, C.M. Evaluation of pyridoacridine alkaloids in a zebrafish phenotypic assay. *Mar. Drugs* (2010) 8, 1769-78.
  170. Lu, Z.; Van Wagoner, R.M.; Harper, M.K.; Hooper, J.N.A.; Ireland, C.M. Two ring-A-aromatized bile acids from the marine sponge *Sollasella moretonensis*. *Natural Product Communications* (2010) 5, 1571-1574.
  171. Dolan, B.P.; Li, L.; Veltri, C.A.; Ireland, C.M.; Bennink, J.R.; Yewdell, J.W. Distinct pathways generate peptides from defective ribosomal products for CD8+ T Cell immunosurveillance. *J. Immunol.* (2011) 186, 2065-72.
  172. Lu, Z.; Van Wagoner, R.M.; Harper, M.K.; Baker, H.L.; Hooper, J.N.; Bewley, C.A.; Ireland, C.M. Mirabamides E-H, HIV-inhibitory depsipeptides from the sponge *Stelletta clavosa*. *J. Nat. Prod.* (2011) 74, 185-93
  173. Wei, X.; Henriksen, N.M.; Skalicky, J.J.; Harper, M.K.; Cheatham, T.E.; Ireland, C.M.; Van Wagoner, R.M. Araiosamines A-D: Tris-bromoindole cyclic Guanidine alkaloids from the marine sponge *Clathria (Thalysias) araiosa*. *J. Org. Chem.* (2011) 76, 5515-23.
  174. Lu, Z.; Ding, Y.; Li, X.C.; Djigbenou, D.R.; Grimberg, B.T.; Ferreira, D.; Ireland, C.M.; Van Wagoner, R.M. 3-Bromohomofascaplysin A, a fascaplysin analogue from a Fijian *Didemnum* sp. ascidian. *Bioorg. Med. Chem.* (2011) 19(22):6604-7.
  175. Sun, H.; Reinscheid, U.M.; Whitson, E.L.; d'Auvergne, E.; Ireland, C.M.; Navarro-Vázquez, A.; Griesinger, C. The challenge of large scale motion for RDC-based analysis of configuration: the case of fibrosterol sulfate A. *J. Am. Chem. Soc.* (2011) 133, 14629-

14636.

176. Pimentel-Elardo, S.M.; Buback, V.; Gulder, T.A.M.; Bugni, T.M.; Reppart, J.; Bringmann, G.; Ireland, C.M.; Schirmeister, T.; Hentschel, U. New tetromycin derivatives with anti-trypanosomal and protease inhibitory activities. *Mar. Drugs* (2011) *9*, 1682-1697.
177. Lu, Z.; Ding, Y.; Li, X.C.; Djigbenou, D.R.; Grimberg, B.T.; Ferreira, D.; Ireland, C.M.; Van Wagoner, R.M. 3-bromohomofascaplysin A, a fascaplysin analogue from a Fijian *Didemnum* sp. ascidian. *Bioorg Med Chem.* (2011) *22*, 6604-7.
178. Sasaki, S.; Tozawa, T.; Van Wagoner, R.M.; Ireland, C.M.; Harper, M.K.; Satoh, T. Strongylophorine-8, a pro-electrophilic compound from the marine sponge *Petrosia (Strongylophora) corticata*, provides neuroprotection through Nrf2/ARE pathway. *Biochem Biophys Res Commun.* (2011) *415*, 6-10.
179. Lu, Z.; Harper, M.K.; Pond, C.D.; Barrows, L.R.; Ireland, C.M.; Van Wagoner, R.M. Thiazoline peptides and a tris-phenethyl urea from *Didemnum molle* with anti-HIV activity. *J. Nat. Prod.* (2012) *7*, 1436-40.
180. Feussner, K.D.; Ragini, K.; Kumar, R.; Soapi, K.M.; Aalbersberg, W.G.; Harper, M.K.; Carte, B.; Ireland, C.M. Investigations of the marine flora and fauna of the Fiji Islands. *Nat. Prod. Rep.* (2012) *12*, 1424-62.
181. Sandoval, I.T.; Manos, E.J.; Van Wagoner, R.M.; Delacruz, R.G.C.; Edes, K.; Winge, D.R.; Ireland, C.M.; Jones, D.A. Juxtaposition of Chemical and Mutation-Induced Developmental Defects in Zebrafish Reveal a Copper-Chelating Activity for Kalihinol F. *Chemistry and Biology* (2013) *20*, 753-763.
182. Smith, T.E.; Hong, W.; Zachariah, M.M.; Harper, M.K.; Matainaho, T.K.; Van Wagoner, R.M.; Ireland, C.M.; Vershinin, M. Single Molecule Inhibition of Human Kinesin 5A by Adociasulfate-13 and -14 from the Sponge *Cladocroce aculeata*. *PNAS* (2013) *110*, 18880-5.
183. Lu, Z.; Koch, M.; Harper, M.K.; Matainaho, T.K.; Barrows, L.R.; Van Wagoner, R.M.; Ireland, C.M. Plakinamine M, a Steroidal Alkaloid from the Marine Sponge *Corticium* sp. *J. Nat. Prod.* (2013) *76*, 2150-2.
184. Lu, Z.; Van Wagoner, R.M.; Pond, C.D.; Pole, A.R.; Jensen, J.B.; Blankenship, D.; Grimberg, B.T.; Kiapranis, R.; Matainaho, T.K.; Barrows, L.R.; Ireland, C.M. Myristicyclins A and B: antimalarial procyanidins from *Horsfieldia spicata* from Papua New Guinea. *Org. Lett.* (2014) *16*, 346-9.



## Books and Monographs

1. Ireland, C. "The Chemistry of Some Opisthobranch Molluscs." Ph.D. thesis, University of California, 1977, pp. 137.
2. Faulkner, D.J. and Ireland, C. "The Chemistry of Some Opisthobranch Molluscs." In D.J. Faulkner and W.H. Fenical (eds.), *Marine Natural Products Chemistry*. New York: Plenum Press, 1977, pp. 23.
3. Ireland, C. M.; Molinski, T. F.; Roll, D. M.; Zabriskie, T. M.; McKee, T. C.; Swersey, J. C. and Foster, M. P. "Natural Product Peptides from Marine Organisms." In P. J. Scheuer (ed.), *Bioorganic Marine Chemistry*, Vol. 3. New York: Springer-Verlag, 1989, pp. 46.
4. Ireland, C.M. "Marine Natural Products in the 21<sup>st</sup> Century: The Importance of Maintaining Bio-Diversity and Promoting Biotechnology for Developing Pharmaceuticals from the Sea" *Environment, Science and Technology: The Challenge of the 21<sup>st</sup> Century* (Proceeding of The Second Princess Chulabhorn Science Congress, Vol. 1) Bangkok, Chulabhorn Research Institute, 1992, pp.539-50.
5. Ireland, C.M.; Copp, B.R.; Foster, M.P.; McDonald, L.A.; Radisky, D.C.; Swersey, J.C. "Biomedical Potential of Marine Natural Products" in D.H. Attaway and O.R. Zaborsky (eds.), *Marine Biotechnology*, Vol. 1. New York: Plenum Press, 1993, pp. 43.
6. Ireland, C.M.; Copp, B.R.; Foster, M.P.; McDonald, L.A.; Radisky, D.C.; Swersey, J.C. "Bioactive Compounds from the Sea" in R.E. Martin, E.P. Carter, L. M. Davis and G. J. Flick Jr. (eds.), *Marine and Freshwater Products Handbook*, Lancaster: Technomic Publishing, 2000, pp. 641-62.
7. Harper, M.K.; Bugni, T.S.; Copp, B.R.; James, R.D.; Lindsay, B.S.; Richardson, A.D.; Schnabel, P.C.; Tasdemir, D.; VanWagoner, R.M.; Verbitski, S.M.; Ireland, C.M. "Introduction to the Chemical Ecology of Marine Natural Products" in J.B. McClintock and B.J. Baker (eds.), *Marine Chemical Ecology*, Boca Raton: CRC Press, 2001, pp. 3-69.
8. Bugni, T.S.; Ireland, C.M. "Marine-Derived Fungi: A Chemically and Biologically Diverse Group of Microorganisms" in *Natural Products Reports* (2004) 21, 143-163.

## Patents

1. Ireland, C.M. "Novel Patellazoles" (1994) US Patent #383,739.
2. Ireland, C.M.; Radisky, D.C.; Barrows, L.R.; Kramer, R.A. Antineoplastic and Antibacterial Pyrrolo[4,3,2-DE] quinolin-8(1H)-ones (1995) US Patent #5,414,001.

3. McDonald, L.A.; Maiese, W.W.; Ireland, C.M. Namenamicin, a New Eneidyne Antitumor Antibiotic from the Marine Ascidian *Polysyncrator lithostrotum* (October 20, 1995) Provisional US Patent. Full patent application filed October 1996.
4. Fernandez, A., Ireland, C.M. Vitilevuamide, A Cyclic Peptide Antitumor Agent. Full patent application filed September 25, 1996.
5. Naamidine A Extracted from Sea Sponges and Methods for its use as an Anti-Tumor Agent (November 12, 1996) US patent #5574057.
6. "Polyacetylenic Acids and Derivatives Thereof as Antibacterial Agents" [U-4541] US Provisional Patent Application Serial No.: 61/224,799 File Date: July 10, 2009
7. "Triazol-1-ol Analogs as Anti HIV-1 Latency Drugs" [U-5250] US Provisional Patent Application Serial No. 21101.0279U1 File Date: June, 2013.