CURRICULUM VITAE

NAME **CRAIG MARTIN CREWS**

ADDRESS 286 Livingston Street, New Haven, CT 06511

BORN June 1, 1964
Newport News, Virginia

MARITAL STATUS Married To Katherine C. McKenzie, M.D.
2 Children

EDUCATION AND WORK EXPERIENCE

1982-1986	**B.A.**, **Chemistry**, (minor in Biology), University of Virginia
1986-1987	**DAAD Fellow**, Universität Tübingen, Germany
1987-1993	**Ph.D.**, **Biochemistry**, Dept of Biochemistry & Mol. Biology, Harvard University, with Dr. Raymond Erikson (*thesis project: Purification/cloning of MEK1*)
1993-1995	**Postdoctoral Fellow**, Dept. of Chemistry, Harvard University, with Dr. Stuart Schreiber
1995-2000	**Assistant Professor**, Yale University, Dept of Molecular, Cellular & Developmental Biology
1998-2000	**Assistant Professor**, Yale School of Medicine, Dept of Pharmacology
2000-2007	**Associate Professor**, Yale School of Medicine, Dept of Pharmacology
2000-2007	**Associate Professor**, Yale University, Dept of Molecular, Cellular & Developmental Biology *(tenured in 2001)*
2001-2007	**Associate Professor**, Yale University, Dept of Chemistry
2003	**Co-Founder**, Proteolix, Inc. (*sold to Onyx Pharmaceuticals, 2009*)
2003-	**Executive Director**, Yale Center for Molecular Discovery
2007-	**Professor**, Yale University, Depts. of MCDB, Chemistry, Pharmacology
2010-	**Lewis B. Cullman Professor** of MCDB
2013	**Founder,** Arvinas, LLC (oncology-focused biotech;www.arvinas.com)
2015	**Co-Director**, Program for Innovative Therapeutics for CT's Health (PITCH)

HONORS AND AWARDS

1986-1987	**DAAD Research Fellowship** for Graduate Research, (German Academic Exchange Service)
1993	**Damon Runyon Postdoctoral Fellowship**, -*declined*
1993	**American Cancer Society Postdoctoral Fellowship**, -*declined*
1993-1995	**Cancer Research Institute Postdoctoral Fellowship**
1996-1999	**Burroughs Wellcome Fund New Investigator Award**
1996-1999	**Donaghue Foundation New Investigator Award**
1996-1998	**CaPCURE Research Awards** (Assoc. for the Cure of Cancer of the Prostate)
1999	**Arthur Greer Memorial Prize** for Outstanding Junior Faculty Member in the Social or Natural Sciences

1999-2000	**Junior Faculty Fellowship**
2001-2009	**Editorial Board**, *Molecular and Cellular Proteomics*
2001-2005	**Editorial Board,** *Faculty of 1000*
2001-	**Editorial Board,** *Chemistry & Biology*
2005-2009	**Editorial Board**, *Molecular Biosystems*
2005-	**Fellow of the Royal Society of Chemistry**
2005-	**Bessel Research Award,** Alexander von Humboldt Foundation, Germany
2008-	**Editor,** *Chemistry & Biology*
2010-	**Lewis B. Cullman Professor** of MCDB
2010-2012	**Visiting Professor (Gast Professor)**, Universität Konstanz, Germany
2010-	**Editorial Board**, *ChemBioChem*
2011	**Senior Scholar Award,** Ellison Medical Foundation
2013	**Fellow**, American Association for the Advancement of Science (AAAS)
2013	**Entrepreneur of the Year**, Connecticut United for Research Excellence (CURE)
2014	**UCB-Ehrlich Award for Excellence in Medicinal Chemistry** (European Federation of Medicinal Chemistry)
2015-	**Editorial Board**, *ACS Chemical Biology*
2015	**NIH R35 Outstanding Investigator Award** (National Cancer Institute)
2015	**Translational Research Prize**, Yale Cancer Center

SERVICE

- National Cancer Institute Intramural Review Panel, Medicinal Chemistry, May 2001
- Ad hoc Study Section Member, Bioorganic Nat. Product Study Section, NIH, July 2001
- ZRG1 SSS-H 92S, Drug Development for Cancer, NIH Study Section, July, 2003
- ZRG1 SSS-1 12B SBIR/STTR Cancer Diagnostic and Treatment Study Section, Feb, 2004
- ZNA1 SRB-E (13) High Throughput Molecular Screening Assay Dev., Aug, 2004
- Ad hoc Study Section Member, Bioorganic Nat. Product, Study Section, NIH, Oct. 2004
- ZRG1 NCF (09) Study Section, NIH, March 2005
- Ad hoc Member, Drug Discovery and Molecular Pharmacology Study Section (DMP), NIH, November 2005
- Ad hoc Member, Tumor Progression and Metastasis Study Section (DMP), NIH, February 2007
- ZRG1 F09-W (20) Oncology Fellowship Study Section, NIH, June 2007
- NIH EUREKA Award Study Section, March, 2008
- Ad hoc Member, ZRG1 BCMB-B study section, NIH October 2008
- ZRG1 BST-J(51)R, NIH HTS Assay Development Review study section, February 2009
- SEP/Scientific Review Group 2009/05 ZRG1 CB-P (40) P, March 2009
- Ad hoc Member, 2009/08 ZRG1 BCMB-A (51) Transformative R01, June 2009
- Ad hoc Member, 2009/10 ZRG1 OTC-K (58) R, Challenge Grants, June 2009
- Member, NCI-F Manpower &Training Grants, September 2009-2011
- Ad hoc Member, Small Business: Biological Chemistry, Biophysics, and Drug Discovery (IMST (11)) Study Section, December 2013
- Ad hoc Member, Synthetic and Biological Chemistry B (SBCB), June 2015
- Ad Hoc Member, Molecular and Integrative Signal Transduction (MIST) Study Section, June 2016

- Ad Hoc Member, LLS Career Development Program Selection Committee

TOTAL PUBLICATIONS: 123: total includes 89 research papers of which 11 provoked journal commentaries (denoted *), 24 review articles (denoted ^); 10 book chapters (denoted #), and 7 papers featured as cover art (denoted ‡).
H-Index: 46

(1) Alcorta D, CM Crews, LJ Sweet, L Bankston, SW Jones, and RL Erikson. (1989) Sequence and expression of chicken and mouse rsk: homologs of Xenopus **laevis** ribosomal S6 kinase. *Mol. Cell. Biol.,* **9**:3850-3859. PMCID: PMC362446

(2) Crews CM, AA Alessandrini, and RL Erikson. (1991) Mouse Erk-1 gene product is a serine/threonine protein kinase that has the potential to phosphorylate tyrosine. *Proc. Natl. Acad. Sci. USA,* 88:8845-8849. PMCID: PMC52607
* *subject of commentary in 'The Scientist'*

(3) Crews CM, AA Alessandrini, and RL Erikson. (1992) The primary structure of MEK, a protein kinase that phosphorylates and activates the ERK gene product. *Science,* 258:478-480. PMID: 1411546
* *subject of commentary in 'Journal of NIH Research'*

(4) Crews CM and RL Erikson. (1992) Purification of a murine protein-tyrosine/threonine kinase that phosphorylates and activates the Erk1 gene product: Relationship to the fission yeast byr1 gene product. *Proc. Natl. Acad. Sci. USA,* 89:8205-8209. PMCID: PMC49886

(5) Alessandrini AA, CM Crews, and RL Erikson. (1992) Phorbol ester stimulates a protein tyrosine/threonine kinase that phosphorylates and activates the Erk1 gene product. *Proc. Natl. Acad. Sci. USA,* 89:8200-8204. PMCID: PMC49885

(6) Calvo V, CM Crews, TA Vik, and BE Bierer. (1992) Interleukin 2 stimulation of p70 S6 kinase is inhibited by the immunosuppressant rapamycin. *Proc. Natl. Acad. Sci. USA,* 89:7571-7575. PMCID: PMC49752

(7) ^ Crews CM, AA Alessandrini, and RL Erikson. (1992) Erks: Their fifteen minutes has arrived. *Cell Growth and Differentiation,* 3:135-142. PMID: 1504018

(8) ^ Crews, CM and RL Erikson. (1993) Extracellular signals and reversible protein phosphorylation: What to MEK of it all. *Cell.* 74:215-217. PMID: 8343948

(9) Macdonald SG, CM Crews, L Wu, J Driller, R Clark, RL Erikson, F McCormick. (1993) Reconstitution of the raf-1-MEK-ERK signal transduction pathway in vitro. *Mol. Cell. Biol.,* 13:6615-6620. PMCID: PMC364724

(10) Huang W, AA Alessandrini, CM Crews, RL Erikson. (1993) Raf-1 forms a stable complex with MEK1 and activates MEK1 by serine phosphorylation. *Proc. Natl. Acad. Sci. USA*, 90:10947-10951. PMCID: PMC47898

(11) Brott BK, AA Alessandrini, DA Largaespada, NG Copeland, NA Jenkins, CM Crews, and RL Erikson. (1993) MEK2 is a kinase related to MEK1 and is differentially expressed in murine tissues. *Cell Growth Differ.* 4(11):921-9. PMID: 8297798

(12) Crews CM, JL Collins, WS Lane, ML Snapper, and SL Schreiber. (1994) GTP-dependent binding of the antiproliferative agent didemnin to elongation factor 1*a**. *J.Biol.Chem.* 269:15411-15414. PMID: 8195179

* *subject of 'Chemistry and Engineering News' (CEN) commentary*

(13) # Erikson RL, AA Alessandrini, CM Crews. (1995) Mek1, Mapk/Erk Kinase The Protein Kinase Facts Book p.275-277.

- Assumed Independent Research Program at Yale University –

(14) Crews CM, WS Lane, and SL Schreiber. (1996) Didemnin binds to the protein palmitoyl thioesterase responsible for infantile neuronal ceroid lipofuscinosis *Proc. Natl. Sci. USA*, 93:4316-4319. PMCID: PMC39533

(15) ^ Crews CM. (1996) Deciphering Isozyme Function: Exploring Cell Biology with Chemistry in the Post-Genomic Era *Chemistry and Biology* 3:961-965. PMID: 9000005

(16) Sin N, L Meng, MQW Wang, JJ Wen, WG Bornmann, and CM Crews. (1997) The anti-angiogenic agent fumagillin covalently binds and inhibits methionine aminopeptidase, MetAP-2. *Proc. Natl. Acad. Sci. USA*, 94:6099-6103. PMCID: PMC21008

* *subject of commentaries in Chemistry & Engineering News (CEN), Chemistry & Biology, Pharmacia (published by the Pharmaceutical Society of Japan)*

(17) Wen JJ and CM Crews. (1998) Towards the semi-synthesis of Didemnin M. Solution and solid phase synthesis of a pseudotetrapeptide: pGlu-Glnψ[COO]Ala-Pro-OH. *Tetrahedron Letters*, 39 (8):779-782.

(18) ^ Elofsson M and CM Crews. (1998) Tightening the Nuts and Bolts. *Trends in Biotechnology*,16:147-149.

(19) Wen JJ, and CM Crews. (1998) Synthesis of 9-Fluorenylmethoxycarbonyl Protected Amino Aldehydes. *Tetrahedron Asymmetry*, 9 (11): 1855-1858.

(20) Sin N, L Meng, H Auth, and CM Crews. (1998) Eponemycin Analogs: Syntheses and use as probes of angiogenesis. *Bioorganic & Med.Chem.*6:1209-1217 PMID: 9784862

(21) Meng L, N Sin, and CM Crews. (1998) The antiproliferative agent, didemnin B, uncompetitively inhibits palmitoyl protein thioesterase. *Biochemistry* 37(29):10488-10492. PMID: 9671519

(22) Liu S, J Widom, CW Kemp, CM Crews, and J Clardy. (1998) Structure of Human Methionine Aminopeptidase-2 Complexed with Fumagillin. *Science* 282:1324-1327 PMID: 9812898

** *subject of 'Chemistry and Engineering News' (CEN) and 'Drug Discovery and Development' commentaries*

(23) Meng L, B Kwok, N Sin, and CM Crews. (1999) Eponemycin Exerts its Antitumor Effect through Inhibition of Proteasome Function. *Cancer Research,* 59: 2798-2801. PMID: 10383134

(24) ^ Crews, CM and U Splittgerber. (1999) Chemical Genetics: Exploring and Controlling Cellular Processes with Chemical Probes. *Trends in Biochemical Sciences,* 24:317-320. PMID: 10431176

(25) Sin N, KB Kim, M Elofsson, L Meng, H Auth, BHB Kwok, and CM Crews. (1999) Total Synthesis of the Potent Proteasome Inhibitor Epoxomicin: A Useful Tool for Understanding Proteasome Biology. *Bioorganic & Med. Chem. Letters,* 9:2283-2288. PMID: 10465562

(26) Meng L, R Mohan, BHK Kwok, M Elofsson, N Sin and CM Crews. (1999) Epoxomicin, a Potent and Selective Proteasome Inhibitor exhibits *in vivo* Anti-inflammatory Activity. *Proc. Natl. Acad. Sci. USA,* 96:10403-10408. PMCID: PMC17900

(27) ‡ Elofsson M, U Splittgerber, J Myung, and CM Crews. (1999) Towards Subunit specific Proteasome Inhibitors: Synthesis and Evaluation of Peptide α'β' epoxyketones. *Chemistry & Biology,* 6:811-822. PMID: 10574782

* *subject of 'Chemistry and Engineering News' (CEN)*

(28) Kim K, J Myung, N Sin, and CM Crews. (1999) Proteasome Inhibition by the Natural Products Eponemycin and Dihydroeponemycin: Insights into Specificity and Potency. *Bioorg. Med. Chem. Lett.* 9:3335-3340. PMID: 10612595

(29) Groll M, K Kim, N Kairies, R Huber, and CM Crews. (2000) Crystal Structure of Epoxomicin:20S Proteasome Reveals a Molecular Basis for Selectivity of α'β'-Epoxyketone Proteasome Inhibitors. *J.Am.Chem.Soc.,* 122:1237-1238.

* *subject of 'Chemistry and Engineering News' (CEN)*

(30) ^ Crews CM and R Mohan. (2000) Small-Molecule inhibitors of the Cell Cycle. *Curr. Opin. Chem. Biol.* 4:47-53. PMID: 14593706

(31) Schwarz K, R de Giuli, G Schmidtke, S Kostka, M van den Broek, K Kim, CM Crews, R Kraft, and M Groettrup. (2000) The selective proteasome inhibitors lactacystin and

epoxomicin can be used to either up- or down-regulate antigen presentation at nontoxic doses *J. Immunology*, 164(12):6147-57. PMCID: PMC2507740

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(33) Yeh J, R Mohan, and CM Crews. (2000) The Antiangiogenic Agent TNP-470 requires p53 and $p21^{CIP/WAF}$ for Endothelial Cell Growth Arrest. *Proc. Natl. Acad. Sci. USA*,97:12782-12787 PMCID: PMC18841

(34) Princiotta MF, U Schubert, I Bacik, JR Bennink, J Myung, CM Crews, and JW Yewdell. (2001) Cells adapted to the proteasome inhibitor 4-hydroxy- 5-iodo-3-nitrophenylacetyl-Leu-Leu-leucinal-vinyl sulfone require enzymatically active proteasomes for continued survival. *Proc. Natl. Acad. Sci. USA*, 98(2):513-518. PMCID: PMC14618

(35) Myung J, K Kim, KK Lindsten, NP Dantuma, and CM Crews. (2001) Lack of Proteasome Active Site Allostery as Revealed by Subunit-Specific Inhibitors. *Molecular Cell*, 7(2):411-420. PMID: 11239469

(36) ‡ ^ Myung J, K Kim, CM Crews. (2001) The Ubiquitin-proteasome Pathway and Proteasome Inhibitors. *Medicinal Research Reviews*, 21:245-273. PMCID: PMC2556558

(37) ‡ Kwok HB, B Koh, M Ndubuisi, M Elofsson, and CM Crews. (2001) The Anti-inflammatory Natural Product Parthenolide from the Medicinal Herb Feverfew Directly Binds to and Inhibits IκB Kinase. *Chemistry & Biology* 8(8):759-66. PMID: 11514225

(38) Sakamoto KM, KB Kim, A Kumagai, F Mercurio, CM Crews, and RJ Deshaies. (2001) Protacs: Chimeric Molecules that Target Proteins to the Skp1-Cullin-F Box Complex for Ubiquitination and Degradation, *Proc. Natl. Acad. Sci. USA* 98:8554-8559. PMCID: PMC37474

(39) Ndubuisi M, B Kwok, J Vervoort, M Elofsson, and CM Crews. (2002) Characterization of a Novel Mammalian Phosphatase Having Sequence Similarity to Schizosaccharomyces pombe PHO2 and Saccharomyces cerevisiae PHO13. *Biochemistry*, 41(24):7841-8. PMCID: PMC2556553

(40) Shotwell JB, B Koh, M Ndubuisi, HW Choi, E Medina, JL Wood, CM Crews. (2002) Inhibitors of NF-κB Signalling: Design and Synthesis of a Biotinylated Isopanepoxydone Affinity Reagent. *Bioorganic and Medicinal Chemistry Letters* 12 (23): 3463-3466 PMID: 12419384

(41) Shotwell JB, ES Krygowski, J Hines, B Koh, EWD Huntsman, HW Choi, JS Schneekloth Jr., JL Wood, and CM Crews. (2002) Total Synthesis of Luminacin D *Organic Letters*, 5;4(18):3087-9 PMCID: PMC2556570

(42) ^ Koh B and CM Crews. (2002) Chemical Genetics: A Small Molecule Approach to Neurobiology *Neuron* 14;36(4):563-6. PMID: 12441047

(43) # Crews CM and KB Kim. (2003) Natural and Synthetic Inhibitors of the Proteasome. Proteasome Inhibitors in Cancer Therapy. (J. Adams, editor)

(44) # Crews CM and JB Shotwell. (2003) Small Molecule Inhibitors of the Cell Cycle *Prog Cell Cycle Res.* 5:125-33 PMID: 14593706

(45) Garrett IR, G Gutierrez, G Rossini, M Zhao, KB Kim, S Hu, CM Crews, and GR Mundy. (2003) Selective inhibitors of the osteoblast proteasome stimulate bone formation *in vivo* and i*n vitro*. *J Clin Invest*. 111(11):1771-82. PMCID: PMC156102

(46) Yang Z-Q, B Kwok, S Lin, M Koldobskiy, CM Crews, and SJ Danishefsky. (2003) Simplified Synthetic TMC-95A/B Analogues Retain the Potency of Proteasome Inhibition *ChemBioChem* 4:508-513. PMCID: PMC2556569

(47) ^ Yeh J and CM Crews. (2003) Chemical Genetics: Adding to the Developmental Biology Toolbox *Developmental Cell* **5**(1):11-19. PMID: 12852848

(48) ^ Crews CM. (2003) Feeding the Machine: Mechanisms of Proteasome-catalyzed Degradation of Ubiquinated Proteins *Curr Opin in Chemical Biology*,**7**(5):534-9. PMID: 14580555

(49) Sakamoto KM, K Kim, R Verma, A Ransick, B Stein, CM Crews, and RJ Deshaies. (2003) Development of Protacs to Target Cancer-Promoting Proteins for Ubiquitination and Degradation *Mol Cell Proteomics* **2**(12):1350-1358. PMID: 14525958

(50) Brdlik C, and CM Crews. (2004) A Single Amino Acid Residue Defines the Difference in Ovalicin Sensitivity Between Type I and II Methionine Aminopeptidases. *J.Biol.Chem*. **279**:9475-80. PMCID: PMC2556556

(51) Schneekloth Jr., JS, F Fonseca, M Koldobskiy, A Mandal, R Deshaies, K Sakamoto, and CM Crews. (2004) Chemical Genetic Control of Protein Levels: Selective *in vivo* Targeted Degradation *JACS* **126**(12):3748-54 PMID: 15038727

(52) Lin S, ZQ Yang, BH Kwok, M Koldobskiy, CM Crews, SJ Danishefsky. (2004) Total synthesis of TMC-95A and -B via a new reaction leading to Z-enamides. Some preliminary findings as to SAR. *JACS*. **126**(20):6347-55. PMCID: PMC2507741

(53) ^ Schneekloth Jr., JS, CM Crews. (2005) Chemical Approaches to Controlling Intracellular Protein Degradation *ChemBioChem* **6**(1):40-6. PMCID: PMC2556563

(54) # Kim KB, F Fonseca, CM Crews. (2005) Development and Characterization of Proteasome Inhibitors *Methods in Enzymology* (399):585-609. PMCID: PMC2556561

(55) # Gough JD and CM Crews. (2006) Probing Protein Function with small molecules. *Ernst Schering Research Foundation* Chemical Genomics *Workshop Proceedings.* (58):61-74. PMID: 16708999

(56) Mandal, AK, JS Schneekloth Jr., and CM Crews. (2005) Stereoselective Assembly of a 1,3 Diene via Coupling between an Allenic Acetate and a (B)-alkylborane: Synthetic Studies on Amphidinolide B1. *Organic Letters*, **7**(17):3645-8 PMCID: PMC2507736

(57) Mandal A, J Hines, and CM Crews. (2005) Developing Microcolin A Analogues as Biological Probes *Bioorg. Med.Chem Letters* **15**(18):4043-7 PMCID: PMC2507739

(58) ‡ Leuenroth S and CM Crews. (2005) Studies on Calcium Dependence Reveal Multiple Modes of Action for Triptolide *Chemistry& Biology* **12**(12):1259-68. PMCID: PMC2486259

(59) Mandal AK, JS Schneekloth Jr., K Kuramochi, CM Crews. (2006) Synthetic studies on amphidinolide B1. *Organic Letters* **8**(3):427-30. PMCID: PMC2507747

(60) Yeh JR, R Ju, CM Brdlik, W Zhang, ME Matyskiela, JD Shotwell and CM Crews. (2006) Targeted Gene Disruption of Methionine Aminopeptidase 2 Results in an Embryonic Gastrulation Defect and Endothelial Cell Growth Arrest. *PNAS* **103**(27):10379-84. PMCID: PMC1480595

(61) ‡ Hines J, M Roy, H Cheng, CM Agapakis, R Taylor, CM Crews. (2006) Myriaporone 3/4 structure-activity relationship studies define a pharmacophore targeting eukaryotic protein synthesis. *Molecular Biosystems* **2**:371-379 PMCID: PMC2507749

(62) Schneekloth JS Jr., J Sanders, J Hines, S Lo, and CM Crews. (2006) Neurotrophic peptide aldehydes: solid phase synthesis of fellutamide B and a simplified analog. *Bioorg Med Chem Lett* **16**(14):3855-8. PMCID: PMC2507734

(63) ‡ Zhang Y, JR Yeh, A Mara, R Ju, J Hines, W Zhang, D Slusarski, S Holley, and CM Crews. (2006) A Chemical and Genetic Approach to the Mode of Action of Fumagillin. *Chemistry & Biology*, **13**:1001-1009. PMCID: PMC2583369

* *subject of commentary in Chemistry & Biology*

(64) Schneekloth JS Jr., M Puchaeult, CM Crews. (2007) Construction of Highly Substituted Stereodefined Dienes by Cross-Coupling of α–Allenic Acetates *Eur. J. Org. Chemistry* **2007:**40-43.

(65) # Gough J and CM Crews. (2007) Using Natural Products to Unravel Cell Biology. *Chemical Biology: From Small Molecules to System Biology and Drug Design.* Eds. S Schreiber, TM Kapoor, G Weiss.

(66) Leuenroth, SJ, D Okuhara, JD Shotwell, GS Markowitz, Z Yu, S Somlo, and CM Crews. (2007) Triptolide is a Traditional Chinese Medicine-derived Inhibitor of Polycystic Kidney Disease *Proc. Natl. Acad. Sci. USA* **104**:4380-4394 PMCID: PMC1838612

* *subject of commentary in ACS Chemical Biology*

(67) ^ Corson, TW, and CM Crews. (2007) Molecular Understanding and Modern Application of Traditional Medicines: Triumphs and Trials *Cell* **130** (2): 769-774. PMCID: PMC2507744

(68) Petri, A, JS Schneekloth, Jr., AK Mandal, and CM Crews. (2007) Synthesis of the C3-C18 Fragment of Amphidinolides G and H. *Organic Letters* **9**:3001-4. PMCID: PMC2583364

(69) ^ Corson, TW, N Aberle, and CM Crews. (2008) Design and Applications of Bifunctional Small Molecules: Why Two Heads Are Better Than One. *ACS Chemical Biology*, **3**(11):677-692. PMCID: PMC2925120

(70) ^ Campbell, LJ and CM Crews. (2008) Wound Epidermis Formation and Function in Urodele Amphibian Limb Regeneration. *Cellular and Molecular Life Sciences* Jan; **65**(1):73-9 PMID: 18030417

(71) ^ Kim, K.-B., and CM Crews. (2008) Chemical Genetics: Exploring the Role of the Proteasome in Cell Biology using Natural Products and Other Small Molecule Proteasome Inhibitors *J. Med Chemistry* **51**:2600-2605. PMCID: PMC2556560

(72) # Molineaux, C, and CM Crews. (2009) Proteasome Inhibitors in Cancer Chemotherapy, *Cancer: Principles and Practice of Oncology, 8th Ed*. V.T DeVita, T.S. Lawrence, S.A. Rosenberg, editors. Chapter 25., pp.486-490.

(73) Leuenroth, SJ, N Bencivenga, P Igarishi, S Somlo, CM Crews. (2008) Triptolide Reduces Cystogenesis in a Model of ADPKD. *J. Am. Soc. Nephrology* **19**:1659-1662. PMCID: PMC2518446

(74) Leuenroth, SJ , CM Crews. (2008) Triptolide Induced Transcriptional Arrest is Associated with Changes in Nuclear Sub-Structure *Cancer Research* **68**:5257-5266. PMCID: PMC2587069

(75) Schneekloth AR, M Pucheault, HS Tae, and CM Crews. (2008) Targeted Intracellular Protein Degradation Induced by a Small Molecule: En Route to Chemical Proteomics *Bioorganic Medicinal Chemistry Letters*, 18(22):5904-8. PMCID: PMC3175619

(76) Cirone, P, Y Zhang, S Lin, H Griesbach, DC Slusarski, and CM Crews. (2008) A Role for Planar Cell Polarity Signaling in Angiogenesis *Angiogenesis,* **11**:347-360 PMCID: PMC3547076

(77) ‡ Hines, J, M Groll, M Fahnestock, and CM Crews. (2008) Proteasome Inhibition by Fellutamide B Induces Nerve Growth Factor Synthesis *Chemistry&Biology* **15**(5):501-12. PMCID: PMC2485210

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(78) Rodriguez-Gonzalez, A., K Cyrus, M Salcius, K-B Kim, CM Crews, RJ Deshaies, and KM Sakamoto. (2008) Targeting Steroid Hormone Receptors for Ubiquitination and Degradation in Breast and Prostate Cancer Cells *Oncogene,* Dec 4;**27**(57):7201-11 PMID: 18794799

(79) ^ Leuenroth, SJ and CM Crews. (2009) Targeting Cyst Initiation in ADPKD. *J. Am. Soc. Nephrology* **20**:1-3. PMID: 19118147

(80) Custar DW, TP Zabawa, J Hines, CM Crews, KA Scheidt. (2009) Total Synthesis and Structure-Activity Investigation of the Marine Natural Product Neopeltolide J Am Chem Soc 131(34):12406-12414 PMCID: PMC2735232

(81) Leuenroth, SJ, T. Bencivenga, H. Chahboune, F. Hyder, and CM Crews. (2010) Triptolide Reduces Cyst Formation in a Neonatal to Adult Transition *Pkd1* Model of ADPKD, *Nephrology Dialysis Transplantation,* **25**(7):2187-94. PMCID: PMC2902895

(82) ^ Raina K and CM Crews. (2010) Chemical Inducers of Targeted Protein Degradation. *J. Biol. Chem,* **285**(15):11057-60. PMCID: PMC2856979

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(84) Ju R, Cirone P, Lin S, Griesbach H, Slusarski DC and CM Crews. (2010) Activation of the Planar Cell Polarity Formin DAAM1 Leads to Inhibition of Endothelial Cell Proliferation, Migration and Angiogenesis, *Proc. Nat. Acad. Sci,* **107**(15):6906-11. PMCID: PMC2872452

(85) Hines J, Ju R, Dutschman G, Cheng Y-C and CM Crews. (2010) Reversal of TNP-470-induced endothelial cell growth arrest by guanine and guanine-nucleosides, *J.Pharm.&Experimental Therapeutics,* **334**:729-738. PMCID: PMC2939662

(86) ^ Crews CM. (2010) Targeting the Undruggable Proteome: The Small Molecules of My Dreams. *Chemistry & Biology,* **17**:551-555. PMCID: PMC2925121

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(88) ^ Schneekloth, A, and CM Crews. (2010) Targeted Intracellular Protein Degradation as a Potential Therapeutic Strategy, in Frontiers in Chemical Biology: Enabling Drug Discovery, Mark Bunnage, Editor.

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