

Gary A. Piazza, Ph.D.
W.W. Walker Endowed Professor
Department Head, Drug Discovery and Development
Director, Harrison School of Pharmacy Cancer Research Center
Auburn University
Office: 334-844-7409
Email: gap0034@auburn.edu

Ph.D. in pharmacology with over 35 years of experience in cancer research and interests in drug discovery and development relating to experimental therapeutics and cancer chemoprevention.

PROFESSIONAL EXPERIENCE

Professor and Department Head **2021-current**
Director, Cancer Research Center
Harrison School of Pharmacy
Department of Drug Discovery and Development
Auburn University, AL

Professor of Oncologic Sciences and Pharmacology **2011-2021**
Program Director, Chemoprevention and Experimental Therapeutics
Chief, Drug Discovery and Development Research Center
University of South Alabama Mitchell Cancer Institute
National Academy of Inventors Fellow

Leadership and mentoring responsibility for a multidisciplinary team with expertise in medicinal chemistry, biochemistry, molecular and cell biology, and mouse tumor models. Established a research platform involving a chemical-biology approach and the synthesis of a custom library of indenones structurally related to the cancer chemopreventive drug, sulindac, to identify novel vulnerabilities of cancer cells that occur during early stages of malignancy. Inhibitors targeting RAS directly or β -catenin indirectly *via* inhibition of PDE10, a novel oncogenic protein, emerged with highly potent and selective cancer cell growth inhibitory activity and exceptionally strong *in vivo* anti-tumor activity in multiple, extremely aggressive mouse tumor models. Principal investigator on multiple NCI R01 grants focused on the development of these compounds for colorectal, lung, ovarian, and breast cancers.

Principal Scientist **2003-2011**
Program Director, Southern Research Molecular Libraries Screening Center
Adjunct Associate Professor of Pharmacology and Toxicology, UAB
Adjunct Associate Professor of Biochemistry and Molecular Genetics, UAB
Senior Scientist UAB Comprehensive Cancer Center School of Medicine
Southern Research Institute, Birmingham AL

Established an independent NIH funded research program relating to develop novel sulindac derivatives for colorectal cancer chemoprevention. Served as the Program Director for a NIH molecular libraries screening center involving assay development, high throughput screening, synthetic chemistry, and cheminformatics. Managed a cell biology laboratory that evaluated experimental drugs for numerous pharmaceutical companies and government agencies.

Director of Pharmacology **2001 - 2003**
Adjunct Associate Professor of Pharmacology
CTRC Institute for Drug Development, San Antonio, TX
University of Texas Health Sciences Center, San Antonio, TX

Leadership responsibility for a multidisciplinary group of scientists conducting contract-based research for pharmaceutical companies composed of multiple laboratories including medicinal chemistry, tumor cell biology, *in vivo* tumor efficacy models, target discovery, and biomarkers. Research focused primarily on *in vivo* testing of drugs in clinical trials at CTRC.

Senior Director of Biology **1993 - 2001**
Director of Cell Biology
Cell Pathways Inc., Horsham, PA

- Led the preclinical development of sulindac sulfone (exisulind) that completed phase 3 clinical trials in familial adenomatous polyposis patients.
- First to publish in 1995 (*Cancer Research*) that NSAIDs induce apoptosis of cancer cells by a cyclooxygenase-independent mechanism.
- Established an integrated anticancer drug discovery and development program involving biochemical assays, cell-based screens, and evaluation of antitumor efficacy in animal models lung, colon, bladder and breast cancer.
- Investigated the biochemical and cellular basis for the antineoplastic properties of nonsteroidal anti-inflammatory drugs and discovered a novel cyclooxygenase-independent pathway of apoptosis induction involving phosphodiesterase inhibition, cGMP elevation, and suppression of oncogenic β -catenin signaling.

Staff Scientist, Project Leader **1989 - 1993**
Procter & Gamble Co., Miami Valley Laboratories, Cincinnati, OH

- Led research projects to explore novel biological strategies for skin and hair regeneration.
- Investigated the effects of retinoids on human keratinocyte proliferation and differentiation.
- Investigated regulatory mechanisms of TGF- α , TGF- β and IGF expression.
- Developed cell culture methods to grow hair follicle epithelial matrix cells and demonstrated capacity to produce hard keratins and retain organoid characteristics.
- Developed IHC and RT-PCR methods to quantify growth factor expression in skin.

Assistant Research Oncologist **1987 - 1989**
Depts. of Medical Oncology and Pathology (Dr. Douglas Hixson)
Brown University/Rhode Island Hospital, Providence RI

- Studied a new function of the protease, dipeptidylpeptidase IV, as a modulator of hepatocyte-extracellular matrix (fibronectin) interactions.
- Utilized cultured rat hepatocytes as a model for determining the role of cell surface glycoproteins in hepatocellular carcinogenesis.
- Gained scientific expertise in protease and glycoprotein biochemistry.
- Developed novel protease-substrate detection methodologies using gel electrophoresis.
- Lectured a graduate level course relating to tumor cell metastasis and invasion.

Postdoctoral Fellow **1986 - 1987**
Dept. of Pharmacology (Drs. Mark Sterns and Ken Tew)
Fox Chase Cancer Center, Philadelphia, PA

- First to isolate and characterize kinesin (ATPase involved in microtubule-directed transport) from cultured human prostate tumor cells. Characterized kinesin from normal and neoplastic tissues by functional, structural, and immunological analysis.
- Developed skills in enzymology, immunofluorescence microscopy and computer-based image enhancement techniques.

- Developed knowledge in tumor cell biology, microtubules and associated proteins, intracellular motility, and kinesin.

Graduate Student

1981 – 1986

Dept. of Pharmacology (Dr. Robert Wallace)

University of Alabama, Birmingham, AL

Thesis: A novel function of calmodulin in the platelet cytoskeleton as a regulator of actin Polymerization

- Characterized a novel activity of calmodulin to regulate actin polymerization and provide calcium sensitivity to the platelet cytoskeleton during activation.
- Developed knowledge and research skills in protein biochemistry, enzymology, protein purification and characterization.
- Developed knowledge and research skills in signal transduction and cell biology.

EDUCATION

Ph.D. Pharmacology

1985

The University of Alabama at Birmingham

Bachelor of Biology and Psychology

1981

Dominican University, Chicago, IL

PROFESSIONAL AFFILIATIONS

Member, American Association of Cancer Research (Since 1996)

Fellow, National Academy of Inventors (Since 2016)

ACTIVITIES AND HONORS

- *Chair and reviewer, NCI drug development R21 grant applications, 2018*
- *Scientific Review Panel, NCI PREVENT, 2018 - current*
- *Scientific Review Panel, Molecular Oncogenesis, 2018*
- *Scientific Review Panel, Chemo-dietary prevention permanent member, 2007 – 2015*
- *Scientific Review Panel, NCI SBIR/STTR, Cancer biotherapeutics dev., 2017-current*
- *Scientific Review Panel, Veterans Administration, 2015 - current*
- *Scientific Review Panel, Department of Defense, 2015 - current*
- *Scientific Review Panel, American Cancer Society, Cancer drug discovery, 2014*
- *Scientific Review Panel, NCI SBIR/STTR, Cancer drug disc. and dev., 2009-2015*
- *Scientific Review Panel, NCI Chemoprevention Branch, 1997-2003*
- *Scientific Review Panel, National Human Genome Research Institute, 2004–2006*
- *Scientific Review Panel, NCI Comprehensive Cancer Center Site Visit 2008-current*
- *Scientific Review Panel, NCI Drug Discovery and Mol. Pharm. study section, 2008-2010*
- *Scientific Review Panel, NCI Program project, 2006-current*
- *Scientific Review Panel, NCI SPORE, 2011-current*
- *Scientific Review Panel, Abraham Mitchell Cancer Research Fund, 2012-2014*
- *Editorial Board, Molecular Cancer Therapeutics, 2004-2007*
- *Editorial Board, Oncology Signaling, 2018-current*
- *Editorial Board, Cellular Signaling Journal, 2018-current*
- *Co-guest Editor, International Journal Molecular Sciences (special edition), 2018-current*
- *Ad hoc reviewer for Cancer Research, Cancer Prevention Research, Clinical Cancer Research, Molecular Cancer Research, Journal Pharmacology and Experimental Therapeutics, Cellular and Molecular Life Sciences, Cancer Letters, Biochemical Pharmacology, European Journal of Clinical Investigation, Expert Opinion on Drug*

Safety, Carcinogenesis, and Drug Metabolism and Disposition, Cell Biology and Toxicology, Tumor Biology, Journal of Cancer Research, Cell Communication and Signaling, and Cell Proliferation, Biochemical Biophysical Acta, Journal Functional Foods, Drug Discovery Today, Arabian Journal of Chemistry, Current Cancer Drug Targets, PLOS ONE, Oncotarget, ACS Applied Materials & Interfaces etc.

- *Howard C. Bailey Award of Excellence in Research, UAB Cancer Center Retreat, 2008*
- *Assistant Scientist, UAB Gregory Fleming James Cystic Fibrosis Research Center, 2011*
- *Mitchell Cancer Institute Faculty Committee for Appointments, Promotions, and Evaluations, 2011-2014*
- *Organizer, MCI Weekly seminar series (2011-2018)*
- *Director Search Committee, Mitchell Cancer Institute (2014)*
- *USA Academic Mentorship Program, Mentor for Dr. Natalie Gassman, 2015-2016*
- *Faculty Development Team, Dr. Edmonds, UAB (2018-current)*
- *Chair, Faculty Committee for Appointments, Promotions, and Evaluations, 2015-current*
- *Mayer Mitchell Award for Excellence in Cancer Research, University of South Alabama Mitchell Cancer Institute, 2015*
- *Faculty Senate, University of South Alabama, elected member, and caucus leader for Mitchell Cancer Institute since 2014*
- *Faculty committee, Research and Creative Activities Committee, 2015-2016*
- *Inventor or co-inventor on over 70 patent applications*
- *Founder and President, PDEi Pharmaceuticals LLC., 2013*
- *Co-founder, Consultant, ADT Pharmaceuticals LLC., 2014*
- *Fellow, National Academy of Inventors, 2016*
- *State of Alabama, Mobile Chamber of Commerce Trade Mission to Ireland and UK, 2019*
- *Currently supervising/mentoring – one lab manager, one PhD student, one postdoctoral scientist, two assistant professors, and one associate professor*
- *Member, American Association of Cancer Research (Since 1996)*

MENTORING RECORD

Name	Training Period	Position mentored	Current position
Heather Tinsley, PhD	2006-2010	Graduate Student	Professor (Univ. of Montevallo, AL)
Jason Whitt, PhD	2006-2011	Graduate Student	Research Associate (UAB)
Nan Li, PhD	2008-2013	Graduate Student	Staff Scientist (NCI)
Evrin Gurpinar, PhD	2008-2013	Graduate Student	AstraZeneca (Cambridge, UK)
Jose Thaiparabil, PhD	2004-2007	Postdoctoral	Assistant Professor (Univ. Texas)
Alexandra Fajardo, PhD	2012-2014	Postdoctoral	Staff Scientist (Wood Hudson Institute)
Adam Keeton, PhD	2002-current	Postdoctoral	Assistant Professor (USA MCI)
Bing Zhu, PhD	2011-current	Assistant Professor	Assistant Professor (USA MCI)
Yaguang Xi, PhD, MD	2011-current	Assistant Professor	Professor and Vice Chair (LSU)
Veronica Ramirez, PhD	2012-current	Postdoctoral	Assistant Professor (USA MCI)
Xi Chen, PhD	2010-current	Research Scientist	Assistant Professor (USA MCI)
Joshua Canzoneri, PhD	2012-current	Postdoctoral	Research Scientist (ADT Pharm)
Ashley Lindsey, PhD	2015-2017	Postdoctoral	Postdoctoral Fellow (USA)
Sara Sigler, PhD	2012-2016	Graduate Student	Research Scientist (BlinkBio Inc)
Kevin Lee, PhD	2012-current	Graduate Student	Postdoctoral Fellow (USA MCI)
Jacob Valiyaveetil, PhD	2015-current	Res. Ass. Professor	Research Scientist (ADT Pharm)
Luciana Barnes, PhD	2014-current	Res. Ass. Professor	Assistant Professor (USA MCI)
Yulia Maxuitenko	2016-current	Associate Professor	Associate Professor (USA MCI)
Antonio Ward, PhD	2016-current	Postdoctoral	Postdoctoral Fellow (USA MCI)
Tyler Mattox	2015-current	Graduate student	Technical Sales Specialist, Eurofin
Alex Coley	2019-current	Graduate student	2 nd year Graduate student (USA MCI)
Arllet Hernandez	2020-current	Graduate student	1 st year Graduate student (USA MCI)

TEACHING

Cancer chemotherapy lectures to UAB Medical Students (2005-2009); Cancer chemoprevention lectures to UAB graduate students (2006-2009); Course Director for Drug Discovery and Development class offered to Howard Hugh UAB graduate students (2010); Drug discovery lecture to USA graduate students (2012-current); Cancer chemoprevention lecture to USA graduate students (2017-current); Special topics in cancer biology; RAS inhibitors (2020); Summer internship for undergraduates (2012-current); Honor undergraduate students (2016-current); Summer research for USA medical students (2014-current).

PUBLICATIONS

8352 citations; h index of 50; i10 index 127

1. **Piazza, G.A.** and R.W. Wallace (1985) "Calmodulin accelerates the rate of polymerization of human platelet actin and alters the structure of actin filaments" *Proc. Nat'l. Acad. Sci. (USA)*, 82: 1683 - 1687.
2. **Piazza, G.A.** (1986) "A novel function of calmodulin in the platelet cytoskeleton as a calcium dependent regulator of actin filament assembly" *Doctoral Dissertation*, University of Alabama at Birmingham, Department of Pharmacology.
3. Wallace, R.W. and **G.A. Piazza** (1987) "Calmodulin and actin polymerization" In: *Methods in Enzymology*, (Means, A. R. and Conn, P.M.) Academic Press, New York, Vol. 139, 846 - 857.
4. **Piazza, G.A.**, Callanan, H.M. Mowery, J. and D.C. Hixson (1989) "Evidence for a novel interaction between fibronectin and rat hepatocyte dipeptidylpeptidase IV" *Biochemical Journal*, 262: 327 - 334.
5. Hong, W., **Piazza, G.A.**, Hixson, D.C. and D. Doyle (1989) "Expression of enzymatically active rat dipeptidylpeptidase IV in Chinese hamster ovary cells after transfection" *Biochemistry*, 28: 8474 - 8479.
6. Stearns, M.E. and **G.A. Piazza** (1990) "Properties of kinesin isolated from DU-145 tumor cells and brain" *Biochem. Cell Biol.*, 68: 157 - 163.
7. **Piazza, G.A.** and J.R. Ritter (1993) "Involvement of transforming growth factor- α and its receptor in the growth response of cultured human epidermal cells to retinoic acid" *Epithelial Cell Biology*, 2: 170 - 175.
8. **Piazza, G.A.**, Ritter, J.R. and C.A. Baracka (1995) "Lysophosphatidic acid induction of transforming growth factors types α and β : Modulation of proliferation and differentiation in cultured human keratinocytes and mouse skin" *Experimental Cell Research*, 216: 51 - 64.
9. **Piazza, G.A.**, Kulchak, Rahm, A.L. Krutzsch, M., Sperl, G., Paranka, N.S., Gross, P.H., Brendel, K., Burt, R.W., Alberts, D.S., Pamukcu, R. and D.J. Ahnen (1995) "Antineoplastic drugs, sulindac sulfide and sulfone, inhibit cell growth by inducing apoptosis" *Cancer Research*, 55: 3110 - 3116.
10. Thompson, H. J., Briggs, S., Paranka, N. S., **Piazza, G.A.**, Brendel, K., Gross, P.H., Sperl, G. S., Pamukcu, R. and D.J. Ahnen (1995) "Inhibition of mammary carcinogenesis in rats by sulfone metabolite of sulindac". *J. Natl. Cancer Inst.*, 87: 1259 - 1260.
11. Thompson, H.J., Jiang, C., Lu, X., Mehta, R.G., **Piazza, G.A.**, Paranka, N.S., Pamukcu, R. and D.J. Ahnen (1997) "Sulfone metabolite of sulindac inhibits mammary carcinogenesis". *Cancer Research* 57: 267 - 272.
12. **Piazza, G.A.** and R. Pamukcu (1997) "Apoptosis induction as a mechanism for the antineoplastic properties of FGN-1, a drug for treating premalignant lesions". In: *Apoptosis: Practical Applications and Novel Therapies*. IBC Publishing Co., Boston, MA, 79-86.

13. **Piazza, G.A.**, Rahm, A.K., Finn, T., Fryer, B., Li, H., Stoumen, A.L., Pamukcu, R. and D.J. Ahnen (1997) "Apoptosis primarily accounts for the growth inhibitory properties of sulindac metabolites by a mechanism independent of cyclooxygenase inhibition, cell cycle arrest, or p53 mediation". *Cancer Research* 57: 2452 - 2459.
14. **Piazza, G.A.**, Alberts, D.S., Hixson, L.J., Paranka, N.S., Bogert, C., Guillen, J.M., Brendel, K., Gross, P., Sperl, G., Ritchie, J., Burt, R. W., Ellsworth, L., Ahnen, D.J. and R. Pamukcu (1997). "Sulindac sulfone inhibits azoxymethane-induced colon carcinogenesis without reducing prostaglandin levels". *Cancer Research* 57: 2909 - 2916.
15. Arber, N., Han, E.D., Sgambato, A., **Piazza, G.**, Pamukcu, R., Ahnen, A., Delohery, T., Begemman, M., Wegharst, Kim, N.H. and I.B. Weinstein (1998) "c-K-ras overexpression in rat enterocytes causes resistance to sulindac sulfide induced apoptosis". *Gastroenterology*, 113: 1892 - 1900.
16. Han, E.K., Arber, N., Yamamoto, H., Lim, J., Delohery, T., Pamukcu, R., **Piazza, G.A.**, Xing, W. and I. B. Weinstein (1998) "Effects of sulindac and its metabolites on growth and apoptosis in human mammary epithelial and breast carcinoma cell lines". *Breast Cancer Research and Treatment* 48: 195 - 203.
17. Malkinson, A.M., Koshi, K.M., Dwyer-Nield, L.D., Rice, P.L., Rioux, N., Castonguay, A., Ahnen, D.J., Thompson, H., Pamukcu, R. and **G.A. Piazza** (1998) "Inhibition of NNK-induced mouse lung tumor formation by FGN-1 (sulindac sulfone)". *Carcinogenesis* 19:1353 - 1356.
18. Skopinska-Roszewska, E., **Piazza, G.A.**, Sommer, E., Pamukcu, R., Barcz, E., Filewska, M., Kupis, W., Caban, R., Rudzinski, P., Bogdan, J., Mlekodaj S. and E. Sikorska (1998) "Inhibition of angiogenesis by sulindac and its sulfone metabolite (FGN-1): a potential mechanism for their antineoplastic properties". *Tissue Reactions: Experimental and Clinical Aspects* 20: 85 - 91.
19. Goluboff, E.T., Shabsigh, A., Saidi, J.A., Weinstein, I.B., Mitra, N., Heitjan, D., **Piazza, G.A.**, Pamukcu, R., Buttyan, R. and C.A. Olsson (1999) "FGN-1 (sulindac sulfone) suppresses growth of human prostate cancer in a nude mouse xenograft model by increasing apoptosis". *Urology* 53: 440 - 445.
20. Lim., J.T., **Piazza, G.A.**, Han, E.K., Delohery, T. M., Li, H., Finn, T.S., Buttyan, R., Yamamoto, H., Sperl, G.J., Brendel, K., Gross, P.H., Pamukcu, R. and I.B. Weinstein (1999) "Sulindac derivatives inhibit growth and induce apoptosis in human prostate cancer cell lines". *Biochemical Pharmacology* 58: 1097 - 1107.
21. Stoner, G.D., Budd, G.T., Ganapathi, R., DeYoung, B., Kresty, L.A., Church, J.M., Provencher, K., Pamukcu, R., **Piazza, G.**, Hawk, E., Kelloff, G., Elson, P. and R. U. van Stolk (1999) "Sulindac sulfone induced regression of rectal polyps in patients with familial adenomatous polyposis". *Adv. Exp. Med. Biol.* 470: 45-53.
22. Thompson, W. J., **Piazza, G.A.**, Li, H., Liu, L., Fetter, J., Zhu, B., Sperl, G., Ahnen, D., and R. Pamukcu (2000) "Exisulind induced apoptosis involves cGMP PDE Inhibition, PKG activation, and attenuated β -catenin". *Cancer Research*, 60: 3338 – 3342.

23. Soh, J., Mao, Y., Kim, M., Pamukcu, R., Li, H., **Piazza, G.A.**, Thompson, W. J., and I. B. Weinstein (2000) "Cyclic GMP mediates apoptosis induced by sulindac derivatives via activation of c-jun NH2-Terminal Kinase 1". *Clinical Cancer Research* 6: 4136-4141.
24. Lawson, K. R., Ignatenko, N. A., **Piazza, G.A.**, Cui, H., and E. W. Gerner (2000) "Influence of K-ras activation on the survival responses of Caco-2 cells to the chemopreventive agents sulindac and difluoromethylornithine". *Cancer Epidemiol Biomarkers Prev* 9: 1155-62.
25. **Piazza, G.A.**, Thompson, W. J., Pamukcu, R., Whitehead, C., Li, H., Fetter, J., Gresh, B., Klein-Szanto, A., Farnell, D., Eto, I., and C. J., Grubbs (2001) "Exisulind inhibits rat urinary bladder tumorigenesis by cGMP mediated apoptosis". *Cancer Research* 61: 3961-3968.
26. Chan, D. C., Earle, K., A., Zhao, T. L., Helfrich, B., Zeng, C., Baron, A., Whitehead, C. M., **Piazza, G.**, Pamukcu, R., Thompson, W., J., Alila, H., Nelson, P. and P. A. Bunn (2002) "Exisulind in combination with docetaxel inhibits growth and metastasis of human lung cancer and prolongs survival in athymic nude rats with orthotopic lung tumors". *Clinical Cancer Research* 8: 904-912.
27. Bunn, P. A., Chan, D. C., Earle, K., A., Zhao, T. L., Helfrich, B., Kelly, K., **Piazza, G.**, Whitehead, C. M., Pamukcu, R., Thompson, W., J., and Alila, H. (2002) "Preclinical and clinical studies of docetaxel and exisulind in the treatment of human lung cancer". *Seminars in Oncology* 29: 87-94.
28. Whitehead, C. M., Earle, K., A., Fetter, J., Xu, S., Hartman, T., Chan, D. C., Zhao, T. L., **Piazza, G.**, Klein-Szanto, A. J., Pamukcu, R., Alila, H., P. A. Bunn, and W. J. Thompson (2003). "Exisulind-induced apoptosis in a non-small cell lung cancer orthotopic model augments docetaxel treatment and contributes to increased survival". *Molecular Cancer Therapeutics* 2: 479-488.
29. Joe, A. K., Liu, H., Xioa, D., Soh, J., Pinto, J. T, Beer, D. G., **Piazza, G.A.**, Thompson, W.J., and I. B. Weinstein (2003). Exisulind and CP248 induce growth inhibition and apoptosis in human esophageal adenocarcinoma and squamous cell carcinoma cells". *Journal of Experimental Therapeutics and Oncology* 3: 83-94.
30. Rice, P.L., Kelloff, J., Sullivan, H.; Driggers, L.J., Beard, K.S., Kuwanda, S., **Piazza, G.**, and D. J. Ahnen (2003). Sulindac metabolites induce caspase- and proteasome-dependent degradation of β -catenin protein in human colon cancer cells". *Molecular Cancer Therapeutics* 2: 885-892.
31. Lim, J.T., **Piazza, G.A.**, Pamukcu, R., Thompson, W.J., and I.B. Weinstein (2003). "Exisulind and related compounds inhibit expression and function of the androgen receptor in human prostate cancer cells". *Clinical Cancer Research* 9: 4972-4982.
32. Basler, J. W. and **Piazza, G.A.** (2004). "NSAIDs and cyclooxygenase-2 inhibitors for prostate cancer chemoprevention". *J. Urol.* 171(2): S59-S63.
33. Thompson, I. M., **Piazza, G.A.** et al, (2004). "First International Conference on Chemoprevention of Prostate Cancer". *J. Urol.* 171(2): S3-S4.

34. Kim, K.P., Whitehead, C. **Piazza, G.** and Wargovich, M.J. (2004) "Combinatorial chemoprevention: efficacy of lovastatin and exisulind on the formation and progression of aberrant crypt foci". *Anticancer Res.* 24: 1805-1811.
35. **Piazza, G.A.** (2005) "Utilizing a new tool for drug discovery: Building a better toolbox for research by increasing the availability of molecular probes". *Genetic Engineering News*, 25: 44-46.
36. White, E.L., Maddry, J.A., Ananthan, S., and **G.A. Piazza** (2008) "Southern Research Molecular Libraries Screening Center". *Screening*, 3: 1-4.
37. Jia, L., Noker P.E., **Piazza G.A.**, Leuschner, C., Hansel, W., Gorman, G.S., Coward, L.U., and Tomaszewski, J. (2008) "Pharmacokinetics and pharmacodynamics of Phor21- β CG(ala), a lytic peptide conjugate". *J. of Pharmacy and Pharmacology*, 60:1441-1448.
38. Lu, W., Tinsley H., Keeton, A., **Piazza, G.A.** and Li, Y. (2009) "Suppression of Wnt/ β -Catenin signaling inhibits prostate cancer cell proliferation". *European Journal of Pharmacology* 602: 8-14.
39. **Piazza, G.A.**, Keeton, A.B., Tinsley, H.N., Gary, BD, Whitt, J.D., Mathew, B., Thaiparambil, J., Coward, L., Gorman, G., Li, Y., Sani, B., Hobrath, J.V., Maxuitenko, Y.Y. and Reynolds, R.C. (2009) "A Novel Sulindac Derivative That Does Not Inhibit Cyclooxygenases, but Inhibits Colon Tumor Cell Growth and Induces Apoptosis with Antitumor Activity". *Cancer Prevention Research* 2: 572-580.
40. Abadi, A.H., Ibrahim, T.M., Lehmann, J., Tinsley, H.N., Gary, B.D., and **Piazza, G.A.** (2009) "Design, Synthesis and Biological Evaluation of Novel Pyridine Derivatives as Anticancer Agents and Phosphodiesterase 3 Inhibitors". *Bioorganic Medicinal Chemistry* 17:5974-5982.
41. Abadi, A. H., Abouel-Ella, D. A., Ahmed, N. S., Gary, B. D., Thaiparambil, J. T., Tinsley, H. N., Keeton, A. B., and **Piazza, G.A.** (2009) "Synthesis of Novel Tadalafil Analogues and their Evaluation as Phosphodiesterase Inhibitors and Anticancer Agents". *Arzneimittel forschung/Drug research* *Arz. Forschung* 59: 415-421.
42. Tinsley, H.N., Gary, B.D., Keeton, A.B., Zhang, W., Abadi, A.H., Reynolds, R.C., and **Piazza, G.A.** (2009) "Sulindac Sulfide Selectively Inhibits Growth and Induces Apoptosis of Human Breast Tumor Cells by PDE5 Inhibition, Elevation of cGMP, and Activation of PKG". *Molecular Cancer Therapeutics* 8: 3331-3340.
43. Abadi, A.H., Abouel-Ella, D.A., Lehmann, J., Tinsley, H.N., Gary, B.D., **Piazza, G.A.**, and M. Abdel-Fatta (2010) "Discovery of Novel Colon Tumor Cell Growth Inhibitory Agents through a Combinatorial Approach". *European Journal of Medicinal Chemistry* 45: 90-97.
44. Abadi, A.H., Gary, B.D., Tinsley, H.N., **Piazza, G.A.** and M. Abdel-Halim (2010) "Synthesis, molecular modeling, and biological evaluation of novel tadalafil analogues as phosphodiesterase 5 and colon tumor cell growth inhibitors, new stereochemical perspective". *European Journal of Medicinal Chemistry* 45: 1278-1286.

45. **Piazza, G.A.**, Keeton, A.B., Tinsley, H.N., Whitt, J., Gary, B., Matthew, B., Singh, R., Grizzle, W., and Reynolds, R. (2010) "NSAIDs: Old drugs reveal novel anticancer drug targets". *Pharmaceuticals* 3: 1652-1667.
46. Zhang, L., Nebane, M., Wennerberg, K., Li, Y., Neubauer, V., McKellip, S., Rasmussen, L., Shindo, N., Sosa, M., Maddry, J. Ananthan, S., **Piazza, G.A.**, White, E.L., and E. Harsay (2010) "A high-throughput screen for chemical inhibitors of exocytic transport in yeast". *Chem Bio Chem* 11: 1291-1301.
47. Zhang, Y, Zhang, J., Wang, L., Quealy, E., Gary, B.D. Reynolds, R.C., **Piazza, G.A.**, and J. Lu, (2010) "A novel sulindac derivative lacking COX-inhibitory activities antagonizes AR signaling, inhibits proliferation and suppresses prostate carcinogenesis". *Cancer Prevention Research* 3: 885-895.
48. Tinsley, H.N., Gary, B.D., Thaiparambil, J., Li, N., Lu, W., Li, Y., Maxuitenko, Y.Y. Keeton, A.B., and **Piazza, G.A.** (2010) "Colon tumor cell growth inhibitory activity of sulindac sulfide and other NSAIDs is associated with PDE5 inhibition". *Cancer Prevention Research* 3: 1303-1313.
49. Ahmed, N.S., Gary, B.D., **Piazza, G.A.**, Tinsley, H.N., Laufer, S. and Abadi A.H. (2010) "A Novel access to arylated and heteroarylated β -carboline based PDE5 inhibitors". *Med Chem.* 6: 374-387.
50. Mohamed, H.A., Girgis, N.M.R., Wilcken, R., Bauer, M.R., Tinsley, H.N., Gary, B.D., **Piazza, G.A.**, Boekler, F.M., and Abadi, A.H. (2011) "Synthesis and molecular modeling of novel tetrahydro- β -carboline derivatives with phosphodiesterase 5 inhibitory and anticancer properties". *Journal of Med. Chem.* 54: 495-509.
51. Ahmed N.S., Gary B.D., Tinsley H.N., **Piazza G.A.**, Laufer S, Abadi AH (2011) "Design, synthesis and structure-activity relationship of functionalized tetrahydro- β -carboline derivatives as novel PDE5 inhibitors". *Arch. Pharm.* 344: 149-157.
52. Li, H., Keeton, A. Maddox, C., Rasmussen, L., Hobrath, J., White, L., **Piazza, G.A.**, Kim, J. and T. Waldman (2011) "A high throughput screen with isogenic PTEN^{+/+} and PTEN^{-/-} cells identifies CID1340132, a novel compound with selective cytotoxicity towards PTEN and PIK3CA mutant human colon cancer cells". *Journal of Biomolecular Screening* 16: 383-393.
53. Tinsley, H.N., Gary, B.D., Keeton, A.B., Lu, W., Li, Y., and **G.A. Piazza** (2011) "Inhibition of PDE5 by sulindac sulfide selectively induces apoptosis and attenuates oncogenic Wnt/ β -catenin transcriptional activity in human breast tumor cells". *Cancer Prevention Research* 4: 1275-1284.
54. Lu, W., Lin, C., Roberts, M.J., Waud, W.T., **Piazza, G.A.**, and Y. Li (2011) "Niclosamide suppresses cancer cell growth by inducing Wnt co-receptor LRP6 degradation and inhibiting the Wnt/ β -catenin pathway". *PloS ONE.* 6: e29290.
55. Abadi, A.H., Lehmann, J., **Piazza, G.A.**, Abdel-Halim, M., and Ali, M.S. (2011) "Synthesis, molecular modeling, and biological evaluation of novel tetrahydro- β -carboline hydantoin and tetrahydro- β -carboline thiohydantoin derivatives as phosphodiesterase 5 inhibitors". *International Journal Medicinal Chemistry* Doi:1155/2011/562421.

56. Gao L., Gao, Y., Li, X., Howell, P., Kumar, R., Su, Xiulan, S., Vlassov, A.V., **Piazza, G.A.**, Riker, A. I., Sun, D., and Y. Xi. (2011) "Aquaporins mediate the chemoresistance of human melanoma cells to arsenite". *Molecular Oncology* 6: 81-87.
57. Li, X. Gao, L. Cui, Q., Gary, B.D., Dyess, D.L., Taylor, W., Shevde, L.A., Samant, R.S., Dean-Colomb, W., **Piazza, G.A.** and Y. Xi. (2012) "Sulindac inhibits tumor cell invasion by suppressing NF- κ B mediated transcription of microRNAs". *Oncogene* 31:4979-86.
58. Li, X., Zhang, J., Gao, L., McClellan, S., Finan, M., Butler, T., Owen, L., **Piazza, G.A.**, and Y. Xi (2012) "MiR-181 mediates cell differentiation by interrupting the Lin28 and let-7 feedback circuit". *Cell Death and Differentiation* 19: 378-386.
59. Arora, S., Singh, S., **Piazza, G. A.**, Contreras, C., Panyam, J., and A. Singh (2012) "Honokiol: a novel natural agent for cancer prevention and therapy". *Current Molecular Medicine* 12: 1244-1252.
60. Ahmed, N.S., Ali, A.H., El-Nashar, S.M., Gary, B.D., Fajardo, A., Tinsley, H.N., **Piazza, G.A.**, Negri, M., and A.H. Abadi (2012) "Exploring the PDE5 H-pocket by ensemble docking and structure-based design and synthesis of novel β -carboline derivatives". *European Journal Medicinal Chemistry* 57: 329-43.
61. Whitt, J.D., Li, N., Tinsley, H.N., Chen, X., Zhang, W., Li, Y., Gary, B.D., Keeton, A.B., Xi, Y., Abadi, A.H., Grizzle, W.E., and **G.A. Piazza** (2012) "A novel sulindac derivative that potently suppresses colon tumor cell growth by inhibiting cGMP phosphodiesterase and β -catenin transcriptional activity". *Cancer Prevention Research* 5:822-833.
62. Abdel-Fattah, M.A.O., El-Sharif, H.M.S., El-Naggar, M.A.M., Rashied, R.M.H., Gary, B.D., **Piazza, G.A.**, and A.H. Abadi (2012) "Four-component synthesis of 1,2-dihydropyridine derivatives and their evaluation as anticancer agents". *Medicinal Chemistry*, 8: 392-400.
63. Salama, I., Abdelf-Fattah, M.A., Hany, M.S., El-Sharif, S.A., El-Naggar, M.A.M., Rashied, R.M.H., **Piazza, G.A.**, and Abadi, A.H. (2012) "CoMFA and CoMSIA studies of 1,2-dihydropyridine derivatives and their evaluation as anticancer agents". *Medicinal Chemistry*, 8: 372-383.
64. El-Gamil, D. S., Ahmed, N. S., Gary, B. D., **Piazza, G. A.**, Engel, M., Hartmann, R. W. and A.H. Abadi (2013) "Design of novel beta-carboline derivatives with pendant 5-bromothienyl and their evaluation as phosphodiesterase-5 inhibitors" *Arch Pharm* 346: 23-33.
65. White, M.C., Johnson, G.G., Zhang, W., Hobrath, J.V., **Piazza, G.A.** and M. Grimaldi (2013) "Sulindac sulfide inhibits SERCA, induces ER stress response, and exerts toxicity in glioma cells: relevant similarities and important differences with celecoxib". *J. Neuroscience Research* 91: 393-406.
66. Tinsley, H.N., Grizzle, W.E., Abadi, A., Keeton, A, Zhu, B., Xi, Y., and **G.A. Piazza** (2013) "New NSAID targets and derivatives for colorectal cancer chemoprevention". *Recent Results Cancer Res.* 191: 105-120.
67. Yi, B., **Piazza, G.A.**, Su, X., and Y. Xi, (2013) "MicroRNA and cancer chemoprevention". *Cancer Prevention Research* 6:401-409.

68. Abadi, A., Hany, M. S., Elsharif, S.A., Eissa, A. A., Gary, B. D., Tinsley, H.N, and **G.A. Piazza, G.A.** (2013) "Modulating the cyclic guanosine monophosphate substrate selectivity of the phosphodiesterase 3 inhibitors by pyridine, pyrido[2,3-d]pyrimidine derivatives and their effects upon the growth of HT-29 cancer cell line", *Chem. Pharm. Bul.* 61: 405-410.
69. Gurpinar, E., Grizzle, W.E., Shacka, J.J., Li, N., Piazza, N.A., Russo, S., Keeton, A.B. and **G. A. Piazza** (2013) "A novel non-COX-inhibitory sulindac derivative potently inhibits Akt/mTOR signaling and induces autophagy-mediated cell death in lung adenocarcinoma cells." *Molecular Cancer Therapeutics* 12:663-674. PMID:23804703.
70. Li, N., Tinsley, H.N., Gurpinar, E., Gary, B.D., Russo, S., Xi, Y., Li, Y., Keeton, A.B., Grizzle, W.E., and **G. A. Piazza** (2013) "Sulindac selectively inhibits colon tumor cell growth by activating the cGMP/PKG pathway to suppress Wnt/beta-catenin signaling. *Molecular Cancer Therapeutics* 12:1848-59.
71. Shen, G., Li, X., Jia, Y., **Piazza, G.A.**, and Y. Xi (2013) "Hypoxia regulated microRNA in human cancer" *Acta Pharmacologica Sinica* 34:336-351.
72. Arafa R.K., Hegazy G.H., **Piazza G.A.**, and A.H. Abadi (2013) "Synthesis and in vitro antiproliferative effect of novel quinoline-based potential anticancer agents." *European Journal Medicinal Chemistry* 63:826-32.
73. Sumit, A., Bhardwaj, A., Singh, S., Srivastava, S.K., McClellan, S., Nirodi, C.S., **Piazza, G.A.**, Grizzle, W.E., Owen, L.B., and A.P. Singh (2013) "An undesired effect of chemotherapy: gemcitabine promotes pancreatic cell invasiveness through reactive oxygen species dependent nuclear factor κ B and hypoxia-inducible factor 1 α -mediated up regulation of CXCR4" *Journal Biological Chemistry* 288: 21197-21207.
74. Abadi, A.H., Hany, M., Elsharif, S., Eissa, A., Gary, B., Tinsley, H. and **G. Piazza** (2013) "Modulating the cGMP substrate selectivity of the phosphodiesterase 3 inhibitors by pyridine, pyrido[2,3-d]pyrimidine derivatives and its impact upon the growth of HT-29 Cancer Cell line". *Chemical Pharmaceutical Bulletin* 61:405-410.
75. Awadallah, F.M., **Piazza, G.A.**, Gary, B.D., Keeton, A.B., and J.C. Canzoneri (2013) "Synthesis of some dihydropyrimidine-based compounds bearing pyrazoline moiety and evaluation of their antiproliferative activity" *Eur. J. Med. Chem.* 70: 273-279.
76. Tinsley, H.N. and **G. A. Piazza** (2013) "Novel therapeutics: NSAIDs, derivatives, and phosphodiesterases". *Current Colorectal Cancer Report* 8:325-330.
77. Gurpinar, E., Grizzle, W.E., and **G.A. Piazza** (2013) "Cyclooxygenase independent mechanisms for the chemopreventive activity of anti-inflammatory drugs" *Frontiers in Oncology (Cancer Molecular Targets and Therapeutics)*, Published online July 11, 2013, DOI: 10.3389/fonc.2013.00181.
78. Hamed M.M., Abou El Ella D.A., Keeton A.B., **Piazza G.A.**, Engel M., Hartmann R.W., and A.H. Abadi (2013) "Quinazoline and tetrahydropyridothieno[2,3-d]pyrimidine derivatives as irreversible EGFR tyrosine kinase inhibitors: influence of the position 4 substituent." *Med. Chem. Comm.* 4: 1202-1207.
79. Hamed M.M., Abou El Ella D.A., Keeton A.B., **Piazza G.A.**, Hartmann R.W., Engel M., and A.H. Abadi (2013) "6-aryl and heterocycle quinazoline derivatives as potent EGFR inhibitors

with improved activity toward Gefitinib-sensitive and -resistant tumor cell lines.”, *Chem. Med Chem.* 8:1495-1504.

80. Wang, Z.M., Du, W.J., **Piazza, G.A.**, and Y. Xi (2013) “MicroRNA are involved in the self-renewal and differentiation of cancer stem cells” 34: 1374-1380, *Acta Pharmacologica Sin.*
81. Abdel-Halim M, Keeton AB, Gurpinar E, Gary BD, Vogel SM, Engel M, **Piazza GA**, Boeckler FM, Hartmann RW, and AH Abadi (2013). Trisubstituted and tetrasubstituted pyrazolines as a novel class of cell-growth inhibitors in tumor cells with wild type p53. *Bioorg Med Chem.* 21:7343-56. PMID: 24139845.
82. Gurpinar, E., Grizzle, W.E., and **G.A. Piazza** (2014) “NSAIDs inhibit tumorigenesis, but how?” *Clinical Cancer Research* 20: 1-10. PMID: 24311630.
83. Konecny, I., Schulenburg, A., Hudec, X., Martin, K., Holzmann, K., **Piazza, G.A.**, Reynolds, R., Pehamberger, H., Valent, P. and B. Marian (2014) “Autocrine Fibroblast Growth Factor 18 Signaling Mediates Wnt-dependent Stimulation of CD44-positive Human Colorectal Adenoma Cells”. *Mol. Carcinog.* 54:789-99. PMID: 24619956.
84. Fajardo, A.M. **G.A. Piazza**, and H.N. Tinsley (2014) “The Role of Cyclic Nucleotide Signaling Pathways in Cancer: Targets for Prevention and Treatment” *Cancers* 6: 436-458. PMID: 24577242.
85. Abdel-Rahman, H.M., Abdel-Aziz, M., Canzoneri, J.C., Gary, B.D., and **G. A. Piazza** (2014) "Novel quinazolin-4(3H)-one/Schiff base hybrids as antiproliferative and phosphodiesterase 4 inhibitors: design, synthesis, and docking studies" *Arch. Pharm.* 347: 650–657. PMID: 24985336.
86. Aboul-Fadl, T., Al-Hamad, S., Abdel-Hamid, M., Abdel-Aziz, H., Al-Abaid, A., Gary, B., and **G. A. Piazza** (2014) “Novel non-cyclooxygenase inhibitory derivatives of naproxen for colorectal cancer chemoprevention”. *Med. Chem. Res.* 23: 2177-2188.
87. Elwarraky, L.M., Abdel-Fattah, M., Gary, B.D. **Piazza, G.A.**, and A.H. Abadi (2014) "An efficient and green one-pot synthesis of novel spirooxindole derivatives with potential anti-tumor activity in an aqueous solvent". *Research Publisher* 2: 33-40.
88. Arora, R., Yates, C., Gary, B., McClellan, S., Tan, M., Xi, Y., Reed, E., **Piazza, G.**, Owen, L. and W. Dean-Colomb (2014) “Panepoxydone targets NF- κ B and FOXM1 to inhibit proliferation, induce apoptosis and reverse epithelial to mesenchymal transition in breast cancer”. *PloS One*, 9:e98370.doi 10.1002. PMID: 24896091.
89. Ma, R., Yi, B., **Piazza, G.A.**, and Y. Xi (2015) "Mechanistic role of microRNA in cancer chemoprevention by nonsteroidal anti-inflammatory drugs". *Curr. Pharmacol. Rep.* 1:154-160. PMID: 26213681.
90. Li N., Lee K., Xi Y., Zhu B., Gary B.D., Ramírez-Alcántara V., Gurpinar E., Canzoneri J.C., Fajardo A., Sigler S., Piazza J.T., Chen X., Andrews J., Thomas M., Lu W., Li Y., Laan D.J., Moyer M.P., Russo S., Eberhardt B.T., Yet L., Keeton A.B., Grizzle W.E., and **G.A. Piazza** (2014). “Phosphodiesterase 10A: a novel target for selective inhibition of colon tumor cell growth and β -catenin-dependent TCF transcriptional activity” (2015) *Oncogene* 34: 1499-1509. PMID: 24704829.

91. Tripathi, K., Hussein, U.K., Anupalli, R., Barnett, R., Bachaboina, L., Scalici, J., Rocconi, R.P., Owen, L.B., **Piazza, G.A.**, and K. Palle (2015) "Allyl isothiocyanate induces replication-associated DNA damage response in NSCLC cells and sensitizes to ionizing radiation". *Oncotarget* 6: 5237-5252. PMID: 25742788.
92. Fajardo, A., and **G.A. Piazza** (2015) "Chemoprevention in Gastroenterological Physiology and Disease: Anti-inflammatory Approaches for Colorectal Cancer Chemoprevention", *American Journal of Physiology - Gastrointestinal and Liver Physiology*. 309: G59-70. doi 10.1152. PMID: 26021807.
93. Elhady, A.K., Sigler, S.C., Noureldin, N., Canzoneri, J.C., Ahmed, N.S. **Piazza, G.A.**, and A. H. Abadi (2015) "Structure-based designed of novel tetrahydro-beta-carboline derivatives with a hydrophilic side chain as potential phosphodiesterase inhibitors" *Sci Pharm*; 84: 428-446. doi:10.3399. PMID: 28117310
94. Li, N., Chen, X., Zhu, B., Ramírez-Alcántara, V., Canzoneri, J.C., Lee, K., Sigler, S., Gary, B., Li, Y., Zhang, W., Moyer, M.P., Salter, E.A., Wierzbicki, A., Keeton, A., and **G.A. Piazza** (2015) "Suppression of β -catenin/TCF transcriptional activity and colon tumor cell growth by dual inhibition of PDE5 and 10". *Oncotarget* 6: 27403-27415. PMID: 26299804.
95. Rezk, M.S., Abdel-Halim, M., Keeton, A.B., Franklin, D., Boeckler, F.M., Engel, M., Hartmann, R.W., Zhang, Y., **Piazza, G.A.** and Ashraf H. Abadi (2016) "Synthesis and optimization of new 3,6-disubstituted indole derivatives and their evaluation as anticancer agents targeting the MDM2/MDMx complex", *Chem. Pharm. Bull.* 64: 34–41. PMID: 26726742.
96. Whitt, J., Keeton, A., Sklar, L, Chen, X., and G. A. Piazza (2016) "Sulindac sulfide selectively increases sensitivity of ABCC1 expressing tumor cells to doxorubicin and glutathione depletion". *J. Biomed. Res.* 30:120-133.
97. Lee, K., Lindsey, A., Li, N., Gary, B., Andrews, J., Keeton, A. and **G. Piazza** (2016) " β -catenin nuclear translocation in colorectal cancer cells is suppressed by PDE10A inhibition, cGMP elevation, and activation of PKG". *Oncotarget*. 7: 5353-65. PMID: 26713600.
98. Abdel-Rahman, H.M., Abdel-Aziz, M., Tinsley, H.N., Gary, B.D., Canzoneri, J.C., and **G. A. Piazza** (2016) "Design and synthesis of substituted pyridazinone-1-acetylhydrazones as novel phosphodiesterase 4 inhibitors". *Arch. Pharm. Chem. Life Sci.* 349: 104-111. PMID: 26686665.
99. Somasagara, R.R., Tripathi, K., Spencer, S.M., Clark, D.W., Barnett, R., Bachaboina, L., Scalici, J., Rocconi, R.R., **Piazza, G.A.**, and K. Palle (2016) "Rad6 upregulation promotes stem cell-like characteristics and platinum resistance in ovarian cancer", *Biochem. Biophys. Res. Comm.* 469: 449-55. PMID: 26679603.
100. Lim, S., Liu, H., Madeira da Silva, L., Arora, R., Liu, Z, Phillips, J.B., Schmitt, D.C., Vu, T., McClellan, S., Ling, Y., Lin, W., **Piazza, G.A.**, Fodstad, O, and M. Tan (2016) "The immunoregulatory protein B7-H3 regulates reprogramming of cancer cell glucose metabolism through reactive oxygen species mediated stabilization of HIF-1", *Cancer Research*. 15: 2231-42. PMID: 27197253.

101. Abadi, A. and **G. A. Piazza** (2016) "Mining ZINC database to discover potential phosphodiesterase 9 inhibitors using structure-based drug design approach". Published online, *Medicinal Chemistry*. PMID: 26648332.
102. Yi, B., Chang, B., Feng, X., Ma, R., **Piazza, G.A.**, and Y. Xi (2016) "A novel sulindac derivative inhibits breast cancer metastasis through suppression of TGF β /miR-21 signaling". *Oncotarget*. 16: 7979-92. PMID: 26769851.
103. Tomblin, G., Millen, J.I., Polevoda, B., Rapaport, M., Baxter, B., Wennerberg, K., Maddry, J., Van Meter, M., Gilbertson, M., Nitiss, J.L., **Piazza, G.A.** and D. S. Goldfarb (2016) "Effects of an unusual poison identify a lifespan role for Topoisomerase 2 in *Saccharomyces cerevisiae*" *Aging*, 9: 68-97.
104. Jeevan K. Prasain, Rajani Rajbhandari, Adam Keeton, **Gary A. Piazza**, and Stephen Barnes (2016) "Metabolism and growth inhibitory activity of cranberry flavonoids in bladder cancer cells". *Food and Function*, 7:4012-19.
105. Chung, Wook Joon, Goekeler-Fried, Jennifer L.; Havasi, Viktoria; Chiang, Annette N., Rowe, Steven M; Plyler, Zackery E.; Hong, Jeong S.; Mazur, Marina; **Piazza, Gary A.**, Keeton, Adam B.; White, Lucile; Rasmussen, Lynn; Weissman, Allan M.; Brodsky, Jeffrey L.; and Eric J. Sorscher. (2016) "Increasing the endoplasmic reticulum pool of the F508del allele of the cystic fibrosis transmembrane conductance regulator leads to greater folding correction by small molecule therapeutics", *PLoS ONE* 9:68-97.
106. Adam B. Keeton and **Gary A. Piazza**. 2016. Chapter 8 - Search for Inhibitors of Ras-Driven Cancers, Pages 135-154 in Conquering RAS, 1st Edition. From Biology to Cancer Therapy. Edited by A. Azmi. 2016, ISBN: 978-0-1280-3505-4. Academic Press, Elsevier, Cambridge, MA, USA.
107. Elhady, A.K., Sigler, S.C., Noureldin, N., Canzoneri, J.C., Ahmed, N.S., **Piazza, G.A.** and A. H. Abadi (2016) "Structure-Based Design of Novel Tetrahydro-Beta-Carboline Derivatives with a Hydrophilic Side Chain as Potential Phosphodiesterase Inhibitors" *Scientia Pharmaceutica*, doi: 10.3390/scipharm84030428.
108. Keeton AB, Salter EA, and **GA Piazza** (2017) "Ras drug-effector interactions as a novel drug target" Invited review, *Cancer Research*, 77: 1–6.
109. **GA Piazza** (2017) "Validation of PDE5 as a chemoprevention target" Invited editorial, *Cancer Prevention Research*, Jun 9. doi: 10.1158/1940-6207.CAPR-17-0136.
110. Lee, K. and **G.A. Piazza** "The Interaction Between the Wnt/ β -catenin Signaling Cascade and the Activation of PKG in Cancer" (2017) *J. Biomed. Res.* 31: 189–196.
111. Zhu, B., Lindsey, A., Li, N., Lee, K., Ramirez-Alcantara, V., Canzoneri J.C., Fajardo, A., Madeira da Silva, L., Thomas, M., Piazza, J.T., Yet, L., Eberhardt, B.T., Gurpinar, E., Otali, D., Grizzle, W., Valiyaveetil, J., Chen, X., Keeton, A.B., **Piazza, G.A.** (2017) "Phosphodiesterase 10A is overexpressed in lung tumor cells and inhibitors selectively suppress growth by blocking β -catenin and MAPK signaling. *Oncotarget*, 8:69264-69280.
112. Hatem Abdel-Aziz, Wagdy M. Eldehna, Adam Keeton, **Gary Piazza**, Kadi, Mohamed Attwa, Ali Abdelhameed, Mohamed Attia (2017) "Isatin-benzoazine molecular hybrids as

- potential antiproliferative agents: synthesis and in vitro pharmacological profiling”. *Drug Design, Development and Therapy* 11:2333-2346. PMID: 28848327
113. Attia, M., Eldehna, W., Afifi, S., Keeton, A., **Piazza, G.**, and Abdel-Aziz, H. (2017) “New hydrazonoindolin-2-ones: synthesis, exploration of the possible anti-proliferative mechanism of action and encapsulation into PLGA microspheres”, *PLoS One*. 2017 Jul 25;12(7):e0181241. doi: 10.1371/journal.pone.0181241. eCollection 2017. PMID: 28742842
114. El-Sharkawy, L.Y., El-Sakhawy, R.A., Abdel-Halim, M., Lee, K., **Piazza, G.A.**, Ducho, C., Hartmann, R.W., Abadi, A.H. (2018) “Design and synthesis of novel annulated thienopyrimidines as phosphodiesterase 5 (PDE5) inhibitors.” *Arch Pharm (Weinheim)*. doi: 10.1002/ardp.201800018. [Epub ahead of print] PMID: 29656464.
115. Eldehna, Wagdy Mohamed; Al-Wabli, Reem I.; Almutairi, Maha S; Keeton, Adam; **Piazza, Gary A**; Abdel-Aziz, Hatem A; Attia, Mohamed I. (2018). "Synthesis and biological evaluation of certain hydrazonoindoline-2-one derivatives as new potent anti-proliferative agents”. *Journal of Enzyme Inhibition and Medicinal Chemistry* 33: 867-878. PMID:29707975.
116. Abd El-Aleam RH, George RF, Lee KJ, Keeton AB, **Piazza GA**, Kamel AA, El-Daly ME, Hassan GS, and Abdel-Rahman HM. (2019). “Design and Synthesis of 1,2,4-Triazolo[1,5- α]pyrimidine Derivatives as PDE4B Inhibitors Endowed with Bronchodilator Activity”. *Archiv de Pharmazie* 352: 1-11.
117. Adamska, A., Domenichini, A., Capone, E., Damiani, V., Akkaya, BG, Linton, KJ, Di Sebastiano, P., Chen, X., Keeton, AB, Ramirez-Alcantara, V., Maxuitenko, Y., **Piazza, GA**, De Laurenzi, V., Sala, G., and M. Falasca (2019) “Pharmacological inhibition of ABCC3 slows tumour progression in animal models of pancreatic cancer” *Journal of Experimental & Clinical Cancer Research* 38: 7-14.
118. Almutairi M.S., Hassan E.S., Keeton A.B., **Piazza G.A.**, Abdelhameed A.S., and M.I. Attia M.I. (2019) “Antiproliferative activity and possible mechanism of action of certain 5-methoxyindole tethered C-5 functionalized isatins.” *Drug Design, Development, and Therapy*. 13: 3069-3078. PubMed PMID: 31695325
119. Mattox T.E., Chen X., Maxuitenko, Y.Y., Keeton, A.B. and **G.A. Piazza** (2019) “Exploiting RAS nucleotide cycling as a strategy for drugging RAS-driven cancer”. In Progress and Challenges with Inhibition of K-Ras GTPase in Cancer, *International Journal Molecular Sciences*, 21(1). doi: 10.3390/ijms21010141.
120. Al-Wabli R.I., Almomen A.A., Almutairi M.S., Keeton A.B., **Piazza G.A.**, and Attia M.I. (2020) New isatin–indole conjugates: synthesis, characterization, and a plausible mechanism of their *in vitro* antiproliferative activity. *Drug Des Devel Ther*. 14: 483-495.
121. Aikaterini Emmanouilidi, Emily Ruban, Ilaria Casari, Begum Gokcen Akkaya, Tania Maffucci, Luc Furic, Federica Guffanti, Massimo Broggin, Xi Chen, Yulia Maxuitenko, Adam Keeton, **Gary Piazza**, Kenneth J. Linton, Marco Falasca (2020) “Inhibition of the

lysophosphatidylinositol transporter ABCC1 reduces prostate cancer cell growth and sensitizes to chemotherapy”, *Cancers* 12, 2022.

122. **Piazza G.A.**, Chen X., Ward A., Coley A., Zhou G., Buchsbaum D.J., Maxuitenko Y., and Keeton A.B. (2020) “Targeting cGMP/PKG signaling for the treatment or prevention of colorectal cancer with novel sulindac derivatives lacking cyclooxygenase inhibitory activity”. *Oncology Signaling* 3; Pages 1-6. <https://doi.org/10.1016/j.onsig.2020.04.001> (doi: 10.1016/j.onsig.2020.04.001)
123. **Piazza G.A.**, Ward A., Chen X., Maxuitenko Y., Coley A., Aboeella N.S., Buchsbaum D.J., Boyd M.R., Keeton A.B., and Zhou G. (2020) “PDE5 and PDE10 inhibition activate cGMP/PKG signaling to block Wnt/ β -catenin transcription, cancer cell growth, and tumor immunity”. In press, *Drug Discovery Today*. <https://doi.org/10.1016/j.drudis.2020.06.008> (doi: 10.1016/j.drudis.2020.06.008)
124. Ward A.B., Keeton A.B., Chen X., Mattox T.E., Coley A.B., Maxuitenko Y.Y., Buchsbaum D.J., Randall T.D., Zhou G., and **Piazza G.A.** (2020) “Enhancing anticancer activity of checkpoint immunotherapy by targeting RAS”. In press, *MedComm*. DOI: 10.1002/mco2.10.
125. Mostafa Mansour, Mohammed T El-Saadi, Noha H Amin, Joshua Canzoneri, Adam Keeton, Gary Piazza, Hamdy Abdelrahman (2020) Quinazolinone-Schiff's Base hybrids as Phosphodiesterase 4B inhibitors with dual activity against COPD and Lung Cancer” *Egyptian Journal of Chemistry*, In press.
126. Ahmed K. ElHady, Shou-Ping Shih, Yu-Cheng Chen, Mei-Chin Lu, Nermin Ahmed, Adam Keeton, **Gary Piazza**, Matthias Engel, and Ashraf Abadi. “Extending the use of tadalafil scaffold: development of novel selective phosphodiesterase 5 inhibitors and histone deacetylase inhibitors”, Accepted for publication, *Bioorganic Chemistry*.
127. Kevin J. Lee, Wen-Chi L. Chang, Veronica Ramirez-Alcantara, Xi Chen, Jacob Valiyaveetil, Elaine Gavin, Alla Musiyenko, Luciana Madeira da Silva, Naga S. Annamdevula, Silas J. Leavesley, Antonio Ward, Tyler Mattox, Andrzej Wierzbicki, Alan Salter, Ashley S. Lindsey, Joel Andrews, Bing Zhu, Charles Wood, Ashleigh Neese, Ashley Nguyen, Kristy Berry, Yulia Maxuitenko, Mary Pat Moyer, Greg Gorman, Lori Coward, Adam B. Keeton, Harry Cooper, Margie Clapper, and **Gary A. Piazza**. “PDE10 inhibition selectively blocks Wnt/ β -catenin signaling to suppress colon tumorigenesis”. Accepted for publication, *Molecular Cancer Therapeutics*, 9/20.
128. Heather Tinsley, Xi Chen, Yulia Maxuitenko, Nan Li, Whitney Mitchell, Jason Whitt, Wei Zhang, Bini Mathew, Robert Reynolds, Bernard Gary, Adam Keeton, Gang Zhou, William Grizzle, Clinton Grubbs, and **Gary Piazza**, “N,N-dimethylethyl amide derivative of sulindac prevents breast cancer cell growth *in vitro* and *in vivo*”. Submitted, *Breast Cancer Research and Therapy*, 4/20.
129. Zhi-Chun Ding, Huidong Shi, Kateryna Fesenkova, Nada Aboeella, Eun-Jeong Park, Zhuoqi Liu, Lirong Pei, Jiaqi Li, Richard McIndoe, **Gary Piazza**, Bruce Blazar, David Munn, and Gang Zhou “Persistent STAT5 activation in CD4+ T cells induces transcriptional and epigenetic remodeling to drive polyfunctionality and antitumor immunity”, Accepted for publication, *Science Immunology*, 10/20.

130. Mohammad Abdel-Halim, Heather Tinsley, Adam B. Keeton, Mohammed Weam, Noha H. Atta, Menna A. Hammam, Amr M. Hefnawy, Nora A. S. Racheed, Rolf W. Hartmann, Matthias Engel, **Gary A. Piazza** and Ashraf H. Abadi. "Discovery of trisubstituted pyrazolines as a novel scaffold for the development of selective phosphodiesterase 5 inhibitors", Accepted for publication, *Bioorganic Chem.* 9/20.
131. Ahmed K. El Hady, Yu-Cheng Chen; Yi-Chang Liu; Shou-Ping Shih; Nermin S. Ahmed; Adam B. Keeton; **Gary A. Piazza**; and Ashraf H. Abadi "Modulation of the stereochemistry and the acidic group of novel tadalafil analogues alters the inhibitory profile towards phosphodiesterase 5 (PDE5) and histone deacetylase (HDAC)" Submitted, *Eur. J. Med. Chem.* 8/20.
132. Mohammad Abdel-Halim, Sara Sigler, Nora A. S. Racheed, Menna A. Hammam, Amr M. Hefnawy, Reem K. Fathalla, Ahmed Maher, Yulia Maxuitenکو, Adam B. Keeton, Rolf W. Hartmann, Matthias Engel, **Gary A. Piazza** and Ashraf H. Abadi. "From celecoxib to a novel class of phosphodiesterase 5 Inhibitors: Trisubstituted pyrazolines as novel phosphodiesterase 5 inhibitors with extremely high potency and PDE isozyme selectivity". Accepted with revisions, *J. Med Chem.* 9/20.
133. Bing Zhu, Veronica Ramirez-Alcantara, Xi Chen, Jacob Valiyaveetil, Luciana Madeira da Silva, John T. Piazza, Joshua Canzeroni, Antonio Ward, E. Alan Salter, Andrzej Wierzbicki, Nan Li, Evrim Gurpinar, Kristy Berry, Michele A. Schuler, Gang Zhou, Rajkumar Savai, Greg Gorman, Lori Coward, Nicholas A. Piazza, Isam Eltoum, Dennis Otali, William Grizzle, Michael R. Boyd, Yulia Maxuitenکو, Adam B. Keeton, and **Gary A. Piazza**. "Novel Phosphodiesterase 10A Inhibitor Activates cGMP/PKG Signaling to Block β -Catenin Tcf/Lef Transcription and Lung Cancer Cell Growth", In preparation.

SCIENTIFIC CONFERENCE ABSTRACTS

1. **Piazza, G. A.** and R. W. Wallace (1983) "Photoaffinity labeling of chlorpromazine-binding proteins in human blood platelets." *Fed. Proc.* 42: 568 (oral presentation).
2. **Piazza, G. A.** and R. W. Wallace (1984) "Calmodulin accelerates the rate of assembly of human platelet F-actin." *J. Cell Biol.*, 100: 31A.
3. **Piazza, G. A.**, Norton, P., Dibona, D. R. and R. W. Wallace (1985) "Evidence for a calmodulin-dependent actin-nucleating protein complex in human blood platelets." *J. Cell Biol.*, 101: 401A.
4. **Piazza, G. A.** and M. E. Stearns (1986) "Characterization of purified kinesin from cultured prostatic tumor cells." *J. Cell Biol.*, 102: 551A.
5. **Piazza, G. A.**, Callanan, H. M. and D.C. Hixson (1988) "Fibronectin is a proteolytic substrate of rat hepatocyte dipeptidylpeptidase IV." *The FASEB J.*, 2: A1782.
6. **Piazza, G. A.**, Callanan, H. M. and D.C. Hixson (1988) "Proteolysis of fibronectin by rat hepatocyte dipeptidylpeptidase IV." *Forth International Congress of Cell Biology*.

7. **Piazza, G. A.**, Callanan, H. M. and D. C. Hixson (1989) "Evidence for a role of dipeptidylpeptidase IV in fibronectin mediated hepatocyte-matrix interactions." *Proc. Amer. Ass. Cancer Res.*, 30: 60.
8. **Piazza, G. A.** and J. R. Ritter (1991) "Involvement of transforming growth factor-alpha in the proliferative response of cultured human epidermal cells to retinoic acid." *J. Invest. Derm.*, 96: 613.
9. **Piazza, G. A.**, Paranka, N. S., Pamukcu, R., Burt, R. W. and D. J. Ahnen (1994) "The effect of cancer chemopreventive drugs on the proliferation of rat colonocytes in aberrant crypt foci." *Mol. Biol. Cell* 5: 367A.
10. **Piazza, G. A.**, Thompson, H. J., Mehta, R. G., Alberts, D. S., Burt, R. W., Pamukcu, R. and D. J. Ahnen (1995) "Mechanism for the antineoplastic properties of sulindac metabolites." *Int. J. Oncology*, 7: 962 (oral presentation).
11. Ahnen, D. J., **Piazza, G. A.**, Alberts, D. S., Paranka, N. S., Burt, R. and R. Pamukcu (1995) "Sulindac sulfide and sulfone (FGN-1) both inhibit the growth of colon cancer cell lines by inducing apoptosis." *Gastroenterology* 108: A443 (G. Piazza, oral presentation).
12. Ahnen, D. J., **Piazza, G. A.**, Weyant, J., Driggers, L., Paranka, N. S., Burt, R. and R. Pamukcu (1995) ". The effect of sulindac and its sulfone metabolite (FGN-1) on proliferation in aberrant crypt foci in rats." *Gastroenterology* 108: A444.
13. **Piazza, G. A.**, Mehta, R. Alberts, D., Burt, R., Pamukcu, R. and D. J. Ahnen (1996) "Antineoplastic activity of sulindac does not require cyclooxygenase activity". *Proc. Amer. Ass. Cancer Res*, 37: 279 (oral presentation).
14. **Piazza, G. A.**, Rahm, A., Pamukcu, R. and D. J. Ahnen (1996) "Apoptosis fully accounts for the growth inhibitory activity of sulindac". *Proc. Amer. Ass. Cancer Res*, 37: A1902.
15. **Piazza, G. A.**, Rahm, A., Pamukcu, R. and D. J. Ahnen (1996) "Induction of apoptosis by sulindac metabolites involve a p53 and bcl-2 independent mechanism and do not require cell cycle arrest". *Gastroenterology*, 110: A577 (oral presentation).
16. Fryer, B., Hebal, C., Driggers, L., Pamukcu, R., Ahnen, D. and **G. A. Piazza** (1996) "Quantitation of apoptosis in normal and neoplastic colonic epithelium of rats and humans". *Gastroenterology*, 110: A577.
17. Lawson, K. R., Erdman, S.H., Ahnen, D. J., **Piazza, G. A.** and E. W. Gerner (1997) "Ras-dependent induction of apoptosis by the NSAID sulindac and sulindac sulfone (FGN-1)" *Proc. Amer. Ass. Cancer Res.*, 38: 1919.
18. Budd, G. T., Garber, S. A., van Stolk, R. U., De Young, B., **Piazza, G. A.**, Hawk, E., Kelloff, G. and G. D. Stoner (1997) "Effects of sulindac sulfone on cellular proliferation and mucinous differentiation of rectal polyps in patients with familial adenomatous polyposis". *Proc. Amer. Ass. Cancer Res*, 38: 3542.

19. Han, E. K., Arber, N., Yamamoto, H., Lim, J. T., **Piazza, G. A.**, Qui, W. X. and I. B. Weinstein (1997) "Sulindac sulfide inhibits growth and induces apoptosis in human mammary epithelial cell lines" *Proc. Amer. Ass. Cancer Res*, 38: A1310.
20. Thompson, H., McGinley, J., Ahnen, D. J., Pamukcu, R., and **G. A. Piazza** (1997) "Inhibition of chemically induced pre-malignant and malignant mammary gland lesions by sulindac sulfone (FGN-1)". *Proc. Amer. Ass. Cancer Res*, 38: A2461.
21. **Piazza, G. A.**, Fryer, B. H., van Stolk, R.U., G. T. Budd, G. D. Stoner, E. Hawk, G. Kelloff, R. Pamukcu, D.J. Ahnen, and R. Ganapathi (1997). Selective apoptosis of neoplastic cells accompanies polyp regression in Familial Adenomatous Polyposis (FAP) patients treated with FGN-1 (sulindac sulfone), evidence for a cyclooxygenase independent mechanism". *Gastroenterology*, 112: A628 (oral presentation).
22. Arber, N., Holt, P R., Han, H. H., Sgambato, A., **Piazza, G. A.**, Delohery, T., Begemman, M., Weghorst, C., Kim, N. H., Pamukcu, R., Ahnen, D. J., Reed, J. C., and I. B. Weinstein (1997) "Transformation of rat enterocytes by a c-K-ras oncogene reduces sulindac sulfide associated growth inhibition and apoptosis". *Gastroenterology*, 112: A534.
23. **Piazza, G. A.**, Sommer, E., Barcz, E., Filewska, M., Demkow, U., Mlekodak, S., R. Pumukcu, and E. Skopinska-Roszevska (1997) "Inhibition of angiogenesis by sulindac and its sulfone metabolite (FGN-1): a potential mechanism for their antineoplastic properties." *Int. J. of Oncology*.
24. Goluboff, E. T., Shabsigh, A., Olsson, C., **Piazza, G.**, Pamukcu, R., and R. Buttyan, (1997) "FGN-1 inhibits growth of human prostate cancer in a nude mouse xenograft model." *Proc. 2nd World Congress of Urological Research*.
25. Malkinson, A. M., Koshi, K. M., Dwyer-Nield, L. D., Rice, P. L., Rioux, N., Castonguay, A., Ahnen, D. J., Thompson, H., Pamukcu, R., and **Piazza, G. A.** (1998) "Inhibition of NNK-induced mouse lung tumor formation by FGN-1 (sulindac sulfone)." *Proc. Amer. Ass. Cancer Res*. 39: 267.
26. Schmid, S. M., Kraus, L. A., Gordon, D. G., Harwell, J. E., Pamukcu, R., and **Piazza, G. A.** (1998) "Growth inhibitory activity of FGN-1 and analogues in 13 human tumor lines of various histogenesis." *Proc. Amer. Ass. Cancer Res*. 39: A1331.
27. Lim, J. T. E., Yamamoto, H., Buttyan, R., Pamukcu, R., **Piazza, G.** and I. B. Weinstein (1998) "The effects of sulindac derivatives on human prostate cancer cells." *Proc. Amer. Ass. Cancer Res*. 39: 587.
28. Izbicka, E., Lawrence, R., Davidson, K., Cerna, C., Gomez, L., Pamukcu, R., **Piazza, G. A.** and D. D. Von Hoff (1998) "FGN-1 and analog, CP248, show anticancer activity against human tumor specimens taken directly from patients." *Proc. Amer. Ass. Cancer Res*. 39: 225.
29. Harris, N., Kaznov, D., Halpern, Z., Pick, M., Deutch, V., Paweletz, N., Schroeter, D., **Piazza, G. A.**, Ahnen, D. J., Pamukcu, R., Holt, P., Weinstein, I. B. and N. Arber (1998). "c-K-ras transformed rat enterocytes are more sensitive than normal enterocytes to growth inhibition and apoptosis induced by sulindac sulfone and nimesulind." *Gastroenterology* 114: A2496.

30. Kelloff, J., Maltzman, T., **Piazza, G. A.** and D. J Ahnen (1998). "NSAIDs may reactivate the adenomatous polyposis coli (APC) signaling pathway to apoptosis." *Gastroenterology* 114: A2552.
31. Van Stolk, R., Budd, G. T., Kresty, L., Ganapathi, R., Elson, P., Church, J., **Piazza, G.**, Fryer, B., Provencher, K., Pamukcu, R., Hawk, E., Kelloff, G. and G. D. Stoner (1998) "Effect of sulindac sulfone on proliferation, apoptosis, and polyps in a clinical trial in familial adenomatous polyposis (FAP) with rectal polyps." *Gastroenterology* 114: A2881.
32. Izbicka, E., Lawrence, R., Davidson, K., Cerna, C., Gomez, L., Pamukcu, R., **Piazza, G. A.** and D. D. Von Hoff (1998) "Anticancer activity of FGN-1 and its analogs against human tumor specimens taken directly from patients". *European Symposium on New Drugs in Cancer Therapy*
33. Izbicka, E., Lawrence, R., Davidson, K., Cerna, C., Gomez, L., Pamukcu, R., **Piazza, G. A.** and D. D. Von Hoff (1998) "Anticancer activity of FGN-1 and its analogs against human tumor specimens taken directly from patients". *21st Annual San Antonio Breast Cancer Symposium*.
34. **Piazza, G.A.**, Li, H., Sperl, G., Gross, P., Pamukcu, R. and R. Mehta (1999) "Correlation between apoptosis induction and inhibition of premalignant lesions in a mouse mammary gland organ culture model by a series of exisulind analogs." *Proc. Amer. Ass. Cancer Res.* 40: A2631.
35. **Piazza, G. A.**, Lloyd, M., David, M., Li, H., Sperl, G., Lim, T., Pamukcu, R., Thompson, W.J. and I. B. Weinstein (1999) "Selective apoptosis induction of prostate tumor cells by exisulind and an analog via a cyclooxygenase-independent mechanism". *Proc. Amer. Ass. Cancer Res.* 40: A27.
36. **Piazza, G. A.**, Lloyd, M., David, M. Lim, T., Thompson, W. J., Pamukcu, R., Thompson, W. J. and I. B. Weinstein (1999) "Selective apoptosis induction of prostate tumor cells by exisulind by a novel mechanism of action". *Proc. Am Society Clin. Oncology* 18.
37. Thompson, W. J., Pamukcu, R., Liu, L., Li, H., Ahnen, D., Sperl, G. and **G. A. Piazza** (1999) "Exisulind induced apoptosis in cultured colonic tumor cells involves inhibition of cyclic GMP (cG) phosphodiesterase (PDE)". *Proc. Amer. Ass. Cancer Res.* 40: A26.
38. **Piazza, G. A.**, Sperl, G., Li, H., Liu, L., Pamukcu, R. and W. J. Thompson (1999) "Cyclic GMP (cG) phosphodiesterase (PDE) inhibition: A novel mechanism for the antineoplastic properties of exisulind". *Gastroenterology*, 116: G2130.
39. Weinstein, I. B., Lim, J. T. E., **Piazza, G. A.**, Soh, J. W., Kim, M. G., Yamamoto, H., Buttyan, R., Pamukcu, R. and W. J. Thompson (1999) "Selective induction of apoptosis by exisulind in human prostate cancer by a novel mechanism of action" *American Society for Clinical Oncology* 1368.
40. Chan, D. C., Soriano, A., Helfrich, B., Zhang, Z., Pamukcu, R., **Piazza, G. A.** and P. A. Bunn (1999) "Synergistic effects of exisulind with conventional chemopreventive and therapeutic agents against human lung cancer cells *in vitro* and *in vivo*". *Proc. American Society for Clinical Oncology* 18.

41. Alila, H., Kraus, L, **Piazza, G.**, Sperl, G., Thompson, W. J. and R. Pamukcu (1999) "Antineoplastic effect of exisulind and its analogs on leukemia and myeloma cell lines". *Proc. American Society for Clinical Oncology* 18.
42. Rogala, E., Skopinska-Rozewska, E., Sommer, E., Barcz, E., Filewska, Sokolnicka, I., **Piazza G. A.**, Thompson, W. J. and R. Pamukcu (1999). "Exisulind inhibits IL-8 production and lung tumor cells angiogenic activity". *European Respiratory Society*, 14: 233s.
43. Lim, J. T. E., **Piazza, G. A.**, Sperl, G. S., Pamukcu, R., Thompson, W. J. and I. B. Weinstein (2000). "Exisulind induced apoptosis in prostate cancer cells is associated with down regulation of androgen responsive elements". *Proc. Amer. Ass. Cancer Res.* 41: 48.
44. Joe, A. K., Pinto, J., Beer, D. G., **Piazza, G. A.**, Thompson, W. J. and I. B. Weinstein (2000). "Sulindac compounds inhibit growth, induce apoptosis, and enhance glutathione synthesis in Barrett's esophagus-derived cancer cells". *Proc. Amer. Ass. Cancer Res.* 41: 494.
45. Lu, L., Li, H., **Piazza, G. A.**, Pamukcu, R. and W.J. Thompson (2000) "Protein kinase G activation mediates apoptosis induction by exisulind". *Proc. Amer. Ass. Cancer Res.* 41: 58.
46. Li, H., Lu, L., **Piazza, G. A.**, Pamukcu, R. and W.J. Thompson (2000) "Exisulind regulates PDE 5/2 gene expression in SW480 human colon tumor cells". *Proc. Amer. Ass. Cancer Res.* 41: 172
47. **Piazza, G. A.**, Pamukcu, R., Thompson, W. J., Alila, H., Hill, D., Eto, I. and C. J. Grubbs (2000). "Inhibition of urinary bladder tumorigenesis in rats by exisulind (Aptosyn)". *Proc. Amer. Urological. Assoc.* 163: 122.
48. Earle, K., **Piazza, G. A.**, Lloyd, M., Pamukcu, R. and H. Alila (2000). "Effect of CP461 on androgen-independent (PC-3) human prostate cancer xenografts in nude mice". *Proc. Amer. Urological. Assoc.* 163: 38.
49. Thompson, W. J., **Piazza, G. A.**, Li, H., Lu, L. and R. Pamukcu (2000). "Exisulind induces apoptosis in colonic tumor cells lacking *APC* mutations by cyclic GMP mediated B-catenin reduction. *Gastroenterology* 118: A670.
50. **Piazza, G. A.**, Xu, S., Klein-Szanto, A., Ahnen, D. J., Lu, L., Li, H., and W. J. Thompson (2000). "Overexpression of cGMP phosphodiesterase (cG PDE) in colonic neoplasias compared to normal mucosa". *Gastroenterology* 118: 282.
51. Thompson, W.J., Liu, L., Lloyd, M., **Piazza, G. A.** and R. Pamukcu (2000). "Apoptosis in human prostate cancer cells shows enhanced sensitivity to taxol in the presence of exisulind". Submitted *European Society for Molecular Oncology*, 634.
52. **Piazza, G. A.**, Klein-Szanto, Xu, S., Pamukcu, R. and W. J. Thompson (2001). "Phosphodiesterase 5 overexpression in human non-small cell lung tumors compared to normal bronchial epithelium". *Proc. Amer. Ass. Cancer Res.* 43.

53. Bunn, P. A., Chan, D. C., Earle, K., Zhao, T., Helfrich, B., Pallansch, P., Nelson, P., Alila, H., Pamukcu, R., Whitehead, and **G. A. Piazza** (2001). "Exisulind and docetaxel combination prolongs survival in orthotopic human non-small cell lung cancer rat model." *Proc. Amer. Ass. Cancer Res.* 43.
54. Whitehead, C. M., Earle, K. A., Xu, S., Chan, D., Zhao, T. L., Alila, H., Pamukcu, R., Klein-Szanto, A., Bunn, P., Thompson, W. J., and **G.A. Piazza** (2001). "Efficacy of exisulind and docetaxel combination in an orthotopic human NSCLC rat model involves apoptosis induction and angiogenesis inhibition". *Proc. Amer. Ass. Cancer Res.* 43.
55. Chan, D., Earle, K., Alila, H., **Piazza, G. A.**, Pamukcu, R., Whitehead, C. and P. Bunn (2001). "Increase survival and reduced tumor burden from exisulind and docetaxel combination in an orthotopic human NSCLC rat model ". *Proc. Amer. Ass. Cancer Res.* 43.
56. Li, H., Liu, L., David, M., Whitehead, C., Chen, M., Fetter, J., **Piazza, G.**, W. J. Thompson (2001). "Pro-apoptotic action of exisulind in SW480 colon tumor cells involves β -catenin down regulation". *Proc. Amer. Ass. Cancer Res.* 43.
57. **Piazza, G.A.**, Klein-Szanto, Xu, S., Pamukcu, R. and W. J. Thompson (2001). "Phosphodiesterase 5 overexpression in human pancreatic cancer" *Gastroenterology.*120: 140.
58. Jia, L, Wong, H., Cerna, C., and **G. Piazza** (2002). "LC-MS/MS-based proteomic analysis of the membrane proteins of human prostate carcinoma LNCaP cells". *Proc. Amer. Ass. Cancer Res.* 43: 34.
59. Rice, P., Kelloff, J., Kuwada, S., Driggers, L., Schleman, S., **Piazza, G.**, and D. J. Ahnen (2002). "Sulindac inhibits nuclear translocation and causes proteasome- and caspase-dependent degradation of B-catenin". *Proc. Amer. Ass. Cancer Res.* 43: 67.
60. Medina, L, Gomez, L., Cerna, C., and **G.A. Piazza** (2002). "HMM-176 exhibits marked anticancer activity in an ex-vivo human tumor colony formation assay". *Proc. Amer. Ass. Cancer Res.* 43: 79.
61. Gonzales, P., Boehme, M., Bienek, A., **Piazza, G.** et al., (2002). "Breadth of anti-tumor activity of CK0238273, a novel inhibitor of mitotic kinesin KSP". *Proc. Amer. Ass. Cancer Res.* 43: 269.
62. DeBona, J., Rowinsky, E., Takimoto, C., **Piazza, G.**, and L. Medina (2002). "Antitumor in vitro activity of an inhibitor of EGFR tyrosine kinase against colony formation of freshly explanted human tumor cells in the human tumor cloning assay". *Proc. Amer. Ass. Cancer Res.* 43: 786.
63. **Piazza, G.A.**, Estlack, L., Quada, J., Agyin, J., Izbicka, E., Tolcher, A., Oyajobi, B., and G. Mundy (2002). "Evaluation of the antineoplastic properties of COX-2 selective inhibitors, celecoxib and rofecoxib in human breast and prostate tumor cell lines: evidence for tissue selectivity involving a COX-2 independent mechanism." *European Journal of Cancer*, 38: S85.

64. Izbicka, E., Beckendorf, B., Chavez, J., Getts, R., **Piazza, G.**, Wynne, H., and Tolcher, A. (2002). "Biomarkers of *in vivo* response to bcl-2 antisense in human prostate xenografts". *European Journal of Cancer*, 38: S145.
65. Izbicka, E., Carrizales, G., Kadapakkam, S., Scott, C., **Piazza, G.**, Salunek, M., and R. Getts (2002). "Biomarkers of *in vitro* response to HMN-176 in human ovarian cell lines". *European Journal of Cancer*, 38: S40.
66. Izbicka, E., Carrizales, G., Rani, S., and **G. Piazza** (2002). "Analysis of biomarkers of response to FB642 in human neuroblastoma cells *in vitro*". *European Journal of Cancer*, 38: S38.
67. **Piazza, G.**, Revilla, M., Tanaka, K., Kisa, Y., Hayashi, Y., and M. Palladino (2003). "Growth inhibitory activity of novel marine-derived microtubule binding agents in taxane-sensitive and resistant tumor cell lines". *Proc. Amer. Ass. Cancer Res.*
68. Nicholson, B., Miller, B., Chao, T., Hayashi, Y., Revilla, M, **Piazza, G.**, and M. Palladino (2003). "Identification of novel marine-derived microtubule binding agents and their structure activity relations". *Proc. Amer. Ass. Cancer Res.*
69. **Piazza, G.**, Estlack, L., Revilla, M., Cerno, C., Carrizales, G., Agyin, J., Izbicka, E., and J. Quada (2003). "Differential growth inhibitory and apoptosis inducing activity of COX-2 selective inhibitors, celecoxib and rofecoxib, in human breast and prostate tumor cell lines: evidence for a COX-2 independent mechanism of action". *Proc. Amer. Ass. Cancer Res.*
70. Sreedharan, S., Revilla, M., Estlack, L., Wirtz, U., Valone, F., and **G.A., Piazza** (2003). "Pivanex, a histone deacetylase inhibitor, is synergistic with chemotherapy inhibiting the growth of human non-small cell lung cancer lines". *Proc. Amer. Ass. Cancer Res.*
71. **Piazza, G. A.**, Jones, A. and P. R. Holt (2004). "Unexpected and striking synergism between gemcitabine and sulindac sulfide to inhibit the growth of human pancreatic tumor cell lines". *Proc. Amer. Ass. Cancer Res.* (Late breaking abstract session).
72. Wirtz, U., Jones, A. Sreedharan, S., Bhatnagar, A., and **G.A. Piazza** (2005). "Pivanex, a histone deacetylase inhibitor, is synergistic with the proteasome inhibitor Velcade in inhibiting the growth of human non-small cell lung cancer cells". *Proc. Amer. Ass. Cancer Res.* 1448-c.
73. **Piazza, G. A.**, Jones, A., Noker, P., Hansel, W., Leuschner, and L. Jia (2005). "Lytic peptide Phor21-BCG(ala) II: Selective cytotoxicity and its effects on membrane integrity as measured by permeability to mannitol". *Proc. Amer. Ass. Cancer Res.* 1395-b.
74. **Piazza, G. A.**, Able, C., Ross, L., Payne, P., Maxuitenko, Y., May, R., White, L., and R. Reynolds (2005). "Correlation between colon tumor cell growth inhibition and phosphodiesterase inhibition among specific chemical classes of NSAIDs and COX-2 inhibitors." *Proc. Amer. Ass. Cancer Res.* 175-a.
75. Baxter, B.K., Shindo, N., Kushner, N., Rasmussen, L., Sosa, M.I., Manuvakhova, A., Cooley, S., **Piazza, G.**, White, E.L. and D.S. Goldfarb (2006). "A High-Throughput Assay for Chemical Probes that Affect Yeast Lifespan." *Society for Biomolecular Screening.*

76. White, E.L., Southworth, K., Sneed, B., Ross, L., Reddy, L., Sosa, M.I., Cooley, S., Manouvakhova, A., Rasmussen, L., Barnett, D., Hobrath, J., Ananthan, S., Maddry, J.A., Poffenberger, A., **Piazza, G.**, Eisenberg, D. and C.W. Goulding (2006) "A Novel High Potency Inhibitor of the Pantothenate Pathway in Bacteria". *Society for Biomolecular Screening*.
77. Keeton, A., Chiosis, G., Phohl, J., Rasmussen, L., Maddox, C., Sosa, M., White, E.L., and **G.A. Piazza** (2006) "A High-Throughput Assay for Chemical Probes that Decrease Her2 Expression". *Society for Biomolecular Screening*.
78. Anshu M. Roy, E. Lucile White, Lynn Rasmussen, **Gary Piazza**, Subramaniam Ananthan, Rongbao Li, and Zhican Qu (2007). "Screening for specific anti-angiogenic agents". *Proc. Amer. Ass. Cancer Res.*, LB-284.
79. Keeton, A., Thaiparambil, T., Gary, B., E. White, E., Rasmussen, L., Reynolds, R.C. and **G A. Piazza** (2007). "Reversal of MRP-1 mediated multi-drug resistance by sulindac sulfide and indomethacin". *Proc. Amer. Ass. Cancer Res.*, 2282.
80. Thaiparambil, J., Gary, B.D., Keeton, A.B., Maxuitenko, Y., Gorman, G., Coward, L., Reynolds, R.C., and **G.A. Piazza** (2007). "Sulindac sulfide selectively inhibits cGMP PDE from human HT29 colon tumor cells". *Proc. Amer. Ass. Cancer Res.* 644.
81. White, E.L., Southworth, K., Ross, L.J., Cooley, S., Rasmussen, L., McGhee, M., Sosa, M.I., Feng, F., Manouvakhova, A., **Piazza, G.A.**, Poffenberger, A., Maddry, J.A., Ananthan, S., Hobrath, J., Bansal, N., and T.S. Leyh (2007). "Targeting the Mevalonate Pathway in *Streptococcus pneumoniae*." *Society for Biomolecular Screening*.
82. Shindo, N., Nebane, N.M., Kushner, N., Cooley, S., Rasmussen, L., Zhang, L., McGhee, M., Sosa, M.I., Feng, S., Manouvakhova, A., **Piazza, G.**, Poffenberger, A., Maddry, J.A., Ananthan, S., Hobrath, J., White, E.L., and E. Harsay (2007) "A High-Throughput Screen for Identifying Components of Yeast Post-Golgi Transport Machinery." *Society for Biomolecular Screening*.
83. Gary, B.D., Keeton, A.B., Maddox, C., Rasmussen, L., Hobrath, J., Sosa, M.I., Reynolds, R.C., White, E.L., Ananthan, S., Poffenberger, A., Maddry, J.A., and **G.A. Piazza** (2007) "A HTS Assay to Identify Non-cytotoxic MRP-1 Inhibitors for Reversal of Drug Resistance." *Society for Biomolecular Screening*.
84. Roy, A., Rasmussen, L., Zhai, L., Maddox, C., White, L., Hobrath, J., Stackhouse, M., Keeton, A., **Piazza, G.**, Li, R., Ananthan, S., Bansal, N., Jacob, K., Maddry, J., and Z. Qu (2008) "Screening for specific anti-angiogenic agents". *Proc. Amer. Ass. Cancer Res.*, 1543.
85. Whitt, J., Gary, B., Hobrath, J., Ananthan, S., Maddry, J., White, L., Rasmussen, L., Sosa, M., McKellip, S., Maddox, C., Poffenberger, A., Reddy, L., **Piazza, G.** and A.B. Keeton (2008) "Novel inhibitors of the MRP1 mediated multi-drug resistance phenotype as identified by high throughput screening". *Proc. Amer. Ass. Cancer Res.*, 3241.
86. Nebane, M., McKellip, S., Li, L., Maddox, C., Rasmussen, L., Sosa, M., Feng, S., **Piazza, G.**, Maddry, J., Ananthan, S., Hobrath, J., White, E.L, and M. DeLisa (2008). A High-Throughput Cell-based Screen for Isolating Inhibitors of Amyloid-beta Aggregation: a

- potential approach to treating Alzheimer's disease. *World Pharmaceutical Congress Annual Meeting*.
87. Severson, W. Ananthan, S., Chen, X., Maddox, C., Maddry, J., Noah, D., **Piazza, G.**, Poffenberger, A., Rasmussen, L., Sosa, M., and E.L. White (2008) "A Cell Based High-Throughput Screening Approach for the Discovery of New Inhibitors of the Influenza H5N1 virus". *International Conference on Antiviral Research Annual Meeting*.
 88. McKellip, S., White, E.L., **Piazza, G.A.**, Maddry, G.A., and S. Ananthan (2008) "The Southern Research Molecular Libraries Screening Center". *Society of Biomolecular Sciences Annual Meeting*.
 89. Tinsley, H, Gary, B., Keeton, A., Reynolds, R. and **G. Piazza** (2008) "SRI 21009: A novel non-cyclooxygenase inhibitory derivative of sulindac that potently and selectively inhibits the growth and induces apoptosis of human breast tumor cells. *Proc. Amer. Ass. Cancer Res.*, 476.
 90. **Piazza, G.**, Keeton, A., Gary, B., Thaiparambil, J., Tinsley, H., Mathew, B., Gilbert, K., Coward, L., Roy, A., Qu, Z., Gorman, G., Maxuitenko, Y., and R. Reynolds (2008). "SRI 21009: A novel sulindac derivative that potently inhibits colon tumor cell growth without inhibiting cyclooxygenases". *Proc. Amer. Ass. Cancer Res.*, 2115.
 91. Lu, W., Tinsley, H., Qu, Z., **Piazza, G.**, and Y. Li (2008) "Repression of Wnt signaling inhibits prostate cancer cell proliferation" *Proc. Amer. Ass. Cancer Res.*, 2342.
 92. Keeton, A.B., Gary, B.D., Tinsley, H.N., Whitt, J.D., Rasmussen, L., Maddox, C.B., Sosa, M.I., McKellip, S., Hobrath, J.V., Ananthan, S., Maddry, J.A., White, E.L., and **G.A., Piazza** (2009) "Development of a High Content Image-Based Screen to Identify Small Molecules That Inhibit Growth of Human Colon Cancer Cells". *Proc. Amer. Ass. Cancer Res.*, 1555.
 93. Tinsley, H.N. Gary, B.D., Keeton, A.B., Reynolds, R.C., and **G.A. Piazza** (2009) "Sulindac sulfide inhibits growth and induces apoptosis of HT-29 human colon cancer cells through inhibition of PDE5A". *Proc. Amer. Ass. Cancer Res.*, 26.
 94. Knight, M.R., Tinsley, H.N., Whitt, J.D., Gary, B.D., Keeton, A.B., Reynolds, R.C., and **G.A. Piazza** (2009) "*In vitro* Combination Benefits of Epidermal Growth Factor Receptor Inhibitors and SRI 21009, a Novel Sulindac Derivative that Lacks Cyclooxygenase Inhibitory Activity, for Human Breast Cancer" *Proc. Amer. Ass. Cancer Res.*, 1736.
 95. **Piazza, G.A.**, Keeton, A.B., Gary, B.D., Tinsley, H.N., Whitt, J.D., Knight, M.R., Matthew, B., Coward, L., Gorman, G., Li, Y., Hobrath, J.V., Maxuitenko, Y., and R.C. Reynolds (2009) "*In vivo* inhibition of colon tumor cell growth in the HT-29 xenograft model by SRI 21009: A novel sulindac derivative that potently induces apoptosis but does not inhibit cyclooxygenases". *Proc. Amer. Ass. Cancer Res.*, 2986.
 96. Grimaldi, M., White, M., Reynolds, R.C., and **G.A. Piazza** (2009) "Analysis of NSAIDs as gliotoxic compounds". *Society for Neuroscience Annual Meeting*.

97. Chung, W.J., Rowe, S. M., Keeton, A. B., Shevin, R., **Piazza, G.A.**, and E.J. Sorscher (2009) “A novel cell-based imaging assay for high throughput screens to identify small molecule correctors of $\Delta f508$ -CFTR”. *North American Cystic Fibrosis Conference*.
98. White, M., Johnson, G., **Piazza, G.**, and Grimaldi, M. (2010) “SERCA inhibition and mitochondrial related stress from NSAIDs: differential effects on ERSR and glioma cytotoxicity” *Society for Neuroscience Annual Meeting*.
99. Whitt, J.D., Keeton, A.B., Tinsley, H.N., Gary, B.D., Li, N., Mathew, B., Reynolds, R.C., and **G. A. Piazza** (2011) “Novel sulindac derivatives that inhibit colon cancer growth by a COX independent mechanism involving PDE5 inhibition and the suppression of nuclear β -catenin levels”. *Proc. Amer. Ass. Cancer Res.*, 837.
100. **Piazza, G.A.**, Keeton, A.B., Tinsley, H.N., Gary, B.D., Whitt, J.D., Nan, L., Gurpinar, E., Sun, Y., Mathew, B., Reynolds, R.C., Zhang, W., Singh, R., Coward, L., Gorman, G., Maxuitenko, Y., Grizzle, W., Chang, W.C., and M. Clapper (2011) “Colon Cancer Chemopreventive Properties of a non-cyclooxygenase inhibitory amide derivative of sulindac”. *Proc. Amer. Ass. Cancer Res.* 1865.
101. Gurpinar, E., Sun, Y., Keeton, A.B., Tinsley, H.N., Gary, B.D., Butler, B.L., Binkowski, B. F., Kopelovich, L., Athar, M., and **G.A. Piazza** (2011) “NO-NSAIDs inhibit colon tumor cell growth by a cGMP-independent mechanism” *Proc. Amer. Ass. Cancer Res.*
102. Keeton, A.B., Sun, Y., Li, N., Tinsley, H.N., Butler, B.L., Binkowski, B.F., and **G. A. Piazza** (2011) “Bioluminescent sensor for monitoring intracellular cGMP in live cells. *Society for Biomolecular Screening*.
103. Li, N., Tinsley, H.N., Whitt, J.D., Gary, B.D., Lu, W., Li, Y., Keeton, A.B., and **G.A. Piazza** (2011) “Sulindac sulfide inhibits growth of human colon tumor cells by a cGMP-dependent pathway leading to suppression of β -catenin transcription activity” *Proc. Amer. Ass. Cancer Res.*
104. Sun, Y., Keeton, A. B, Li, N., Tinsley, H.N., Butler, B.L., Binkowski, B.F., and **G.A. Piazza** (2011) A novel biosensor for monitoring intracellular cGMP in live cells” *Proc. Amer. Ass. Cancer Res.*
105. Tinsley, H.N., Keeton, A.B., Lu, W., Li, Y. and **G.A. Piazza** (2011) “PDE5 suppression selectively induces apoptosis of human breast tumor cells and attenuates Wnt/ β -catenin mediated transcription” *Proc. Amer. Ass. Cancer Res.*
106. Arora, S., Srivastava, S., Bhardwaj, A., Singh, A.P., **Piazza, G.A.**, Owen, L.B., and S. Singh (2012) “Honokiol inhibits IL-8 production and exerts anti-tumor effects in colon cancer cells: therapeutic and preventive implications”. *Proc. Amer. Ass. Cancer Res.*
107. Tinsley, H.N., Gary, B.D., Whitt, J.D., Zhang, W., Chen, X., Keeton, A.B., Grubbs, C.J., Grizzle, W.E. and **G.A. Piazza** (2012) “Breast cancer chemopreventive activity of a novel amide derivative of sulindac involves inhibition of PDE5, activation of PKG, and attenuation of Wnt/ β -catenin signaling” *Proc. Amer. Ass. Cancer Res.*
108. Gurpinar, E., Grizzle, W.E., Keeton, and **G.A. Piazza** (2012) “A novel non-COX-inhibitory sulindac derivative induces autophagic cell death in lung adenocarcinoma cells” *Proc. Amer. Ass. Cancer Res.*

109. Gurpinar, E., Grizzle, W.E., Liu, Y., Shacka, J.J., Keeton, A.B. and **G.A. Piazza** (2012) “Novel non-COX-inhibitory sulindac derivative induces autophagic cell death in lung adenocarcinoma cells” *European Journal of Cancer*, 48, Supplement 5, S249-S250.
110. **Piazza, G.A.**, Li, N., Gary B.D., Chen, X., Keeton, A.B., Xi, Y., Zhu, B., Zhang, W., Fajardo, A., Ramirez, V., Sigler, S., Lee, K., Cawthon, C., Gurpinar, E., Brown, M.A., Tinsley, H.N., Abadi, A.H., and Grizzle, W.E. (2012) “Cyclic GMP phosphodiesterase: A molecular target for cancer chemoprevention” *Proceedings from the Eleventh Annual AACR International Conference on Frontiers in Cancer Prevention Research*.
111. Arora, R. Gary, B.D., McClellan, S., Xi, Y., **Piazza, G.**, Reed, E., Owen, L., and W. Dean-Colomb. (2013) “Antitumor activity of a novel natural therapeutic agent against triple negative breast cancer” *Proc. Amer. Ass. Cancer Res*.
112. Gurpinar, E., Grizzle, W.E., Shacka, J.J., Li, N., Keeton, A.B., and **Piazza, G.A.** (2013) “A novel non-COX-inhibitory sulindac derivative induces autophagic cell death by inhibiting Akt signaling in lung cancer cells” *Proc. Amer. Ass. Cancer Res*.
113. Yi, B., Li, X., Du, W., **Piazza, G.A.**, and Y. Xi. (2013) “Let-7 brings new insights into chronic myeloid leukemia therapy” *Proc. Amer. Ass. Cancer Res*.
114. Li, N., Xi, Y., Tinsley, H.N, Gurpinar, E., Gary, B.D., Zhu, B. Li, Y., Keeton, A.B., Grizzle, W.E., and **G. A. Piazza** (2013) “Next generation sulindac” *Proc. Amer. Ass. Cancer Res*.
115. Russo S, Li N, Lee K, Xi Y, Zhu B, Gary BD, Ramírez-Alcántara V, Gurpinar E, Canzoneri JC, Fajardo A, Sigler S, Piazza JT, Chen X, Andrews J, Li Y, Eberhardt BT, Yet L, Keeton AB, Grizzle WE, and **Piazza GA.** (2014) “Phosphodiesterase 10, a novel target in colon cancer” *Proceedings of ASCO Gastrointestinal Cancer Symposium*. San Francisco, USA
116. Li N, Lee K, Xi Y, Zhu B, Gary BD, Ramírez-Alcántara V, Gurpinar E, Canzoneri JC, Fajardo A, Sigler S, Piazza JT, Chen X, Andrews J, Thomas M, Lu W, Li Y, Danuel JL, Moyer MP, Russo S, Eberhardt BT, Yet L, Keeton AB, Grizzle WE, and **Piazza GA.** (2013) “Phosphodiesterase 10, a novel cancer target” *Proceedings of AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics*. Boston, MA
117. Ramírez-Alcántara V., Schuler, MA., Zhu, B., Li N., Gurpinar E., Canzoneri J., Keeton A., Greg Gorman, Lori Coward, Gary B., Grizzle W., Chen X., Russo, S. and **G.A. Piazza** (2014) “A novel PDE10 inhibitor suppresses tumor growth in an orthotopic mouse model of lung cancer”, *Proc. Amer. Ass. Cancer Res*.
118. Sigler, S., Ramirez-Alcantara, V., Abadi, and **G. A. Piazza** (2014) “A novel series of celecoxib derivatives lacking COX-2 inhibitory activity more potently inhibits cancer cell growth by inhibiting PDE5”, *Proc. Amer. Ass. Cancer Res*.
119. Lee, K., Li, N., Chen, X., Zhu, B., Yet, L. and **G.A. Piazza** (2014) “Phosphodiesterase 10, a novel target for colorectal cancer therapeutics”, *Proc. Amer. Ass. Cancer Res*.
120. Zhu, B., Li, N., Ramirez-Alcantara, V., Canzoneri, J.C., Gurpinar, E., Fajardo, A., Lee, K., Sigler, S., Gary, B.D., Thomas, M, Keeton, A.B., Chen, X., Grizzle, W.E., and **G.A. Piazza** (2014) “Phosphodiesterase 10A, a novel therapeutic target for lung cancer”, *Proc. Amer.*

121. Fajardo, A.M., Gary B.D., Lee K.J., Keeton A.B., Zhu B., Chen, X., Abadi A.H., and **G.A. Piazza** (2014) “ β -catenin dependent TCF/LEF transcriptional regulation of phosphodiesterase expression in colon cancer cells” *Proc. Amer. Ass. Cancer Res.*
122. Li N, Lee K, Xi Y, Zhu B, Gary BD, Ramírez-Alcántara V, Gurpinar E, Canzoneri JC, Fajardo A, Sigler S, Piazza JT, Chen X, Andrews J, Thomas M, Lu W, Li Y, Danuel JL, Moyer MP, Russo S, Eberhardt BT, Yet L, Keeton AB, Grizzle WE, and **GA Piazza** (2014) “Phosphodiesterase 10A: a novel target for selective inhibition of colon tumor cell growth and β -catenin-dependent TCF transcriptional activity”, *Proc. Amer. Ass. Cancer Res.*
123. Chen, X. Lee, K.J., Gary, B.D., Canzoneri, J.C., Fajardo, A.M., Sigler, S.C., Ramirez-Alcantara, V., Zhu, B., **Piazza, G.A.** and A. B. Keeton (2014) “A novel series of substituted indene derivatives that potently and selectively inhibit growth of tumor cells harboring mutant Ras”, *AACR Conference on Ras Oncogenes.*
124. Russo, S., Ramírez-Alcántara V., Schuler, M., Zhu, B., Li N., Canzoneri J., Keeton A., Grizzle W., Chen X., and **G.A. Piazza** (2014) “PDE10 inhibitors suppress lung tumor growth in mice”, *Proc. Amer. Soc. Clin. Onco.*
125. Madeira da Silva, L.M., Lee, K., **Piazza, G.**, Bachaboina, L., Rocconi, R. P., and J. M. Scalici (2014) "Investigating the role of phosphodiesterase 10A as a novel target in ovarian cancer", *Society of Gynecological Oncology Annual Conference.*
126. Keeton, A.B., Chen, X., Canzoneri, J.C., Grizzle, W.E., Wilson, L., Barnes, S., and **G.A. Piazza** (2014) "Metabolomic analysis to elucidate the anticancer mechanism of action of a novel NSAID analog", *NIH Annual Metabolomics Conference.*
127. Joshua C. Canzoneri, Xi Chen, Adam B. Keeton, Kevin Lee, Bernard Gary, Ethan B. Butler, William E. Grizzle, Landon Wilson, Stephen Barnes, Michael R. Boyd, **Gary A. Piazza** (2015) “Novel Ras selective Inhibitors” *Proc. Amer. Ass. Cancer Res.*
128. Kevin Lee, Nan Li, Xi Chen, Bing Zhu, Larry Yet, Luciana Madeira da Silva, Suzanne Russo, Adam B. Keeton, Michael R. Boyd, and **Gary A. Piazza** (2015) “Validation of phosphodiesterase 10A as a cancer target” *Proc. Amer. Ass. Cancer Res.*
129. Veronica Ramírez-Alcántara, Michelle, Schuler, Bing, Zhu, Nan Li, Evrim Gurpinar, Dennis Oтали, Joshua Canzoneri, Adam Keeton, Bernard Gary, Suzanne Russo, Lori Coward, Gregory Gorman, William Grizzle, Xi Chen, Michael Boyd and **Gary Piazza** (2015) “Antitumor activity of a novel phosphodiesterase 10 inhibitor in an orthotopic mouse model of lung cancer” *Proc. Amer. Ass. Cancer Res.*
130. Sara Sigler, Veronica Ramirez-Alcantara, Adam Keeton, Mohammad Abdel-Halim, Ashraf Abadi, and Gary A. Piazza (2015) “A novel celecoxib derivative that lacks COX-2 inhibition but displays potent colon tumor cell growth and PDE5 inhibitory activity” *Proc. Amer. Ass. Cancer Res.*
131. Bing Zhu, Kevin Lee, Joshua C. Canzoneri, Veronica Ramirez-Alcantara, Sara Sigler, Bernard D. Gary, Ethan Butler, Adam B. Keeton, Xi Chen, Michael R. Boyd and **Gary A. Piazza** (2015) “Phosphodiesterase 10A inhibition suppresses lung tumor cell growth by activating PKG to inhibit ras and Wnt signaling”, *Proc. Amer. Ass. Cancer Res.*

132. Bin Yi, Xingling Feng, Ruixia Ma, Xiaoguo Zhang, Hong Chang, Hongyou Zhao, Ziping Liang, Xi Chen, Xiuhua Hu, **Gary Piazza**, Yaguang Xi (2015) “SSA, a novel sulindac derivative, inhibits breast cancer cell invasion and migration” *Proc. Amer. Ass. Cancer Res.*
133. **Piazza, G.A.**, Zhu, B., Lee, K., Canzoneri, J., Sigler, S., Lindsey, A., Ramirez-Alcantara, V., Barnes, L., Mullins, H., Trinh, A., Berry, K., Valiyaveetil, J., Keeton, A.B., Xi, C., and M, R. Boyd (2015) “Novel drug development candidate potently and selectively inhibits growth of tumor cells harboring activated Ras”. *Proc. AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics*. Boston, MA,
134. **Piazza, G.A.**, Zhu, B., Lee, K., Canzoneri, J., Sigler, S., Lindsey, A., Ramirez-Alcantara, V., Barnes, L., Mullins, H., Trinh, A., Berry, K., Valiyaveetil, J., Keeton, A.B., Xi, C., and M, R. Boyd (2015) “Novel drug development candidate potently and selectively inhibits growth of tumor cells harboring activated Ras”. *NCI Ras Initiative Conference*, Frederick MD.
135. Barnett, R.M., Tripathi, K., Hussein, U.K., Scalici, J., **Piazza, G.A.**, Rocconi, R.P. and K. Palle (2015) “Allyl Isothiocyanate Induces Replication-Associated DNA Damage Responses and Sensitizes Resistant Ovarian Cancer Cells to Current Therapies”, *Environmental Mutagenesis and Genomics Society*.
136. Luciana Madeira da Silva, Elaine Gavin, Kevin Lee, Ileana Aragon, Veronica Ramirez-Alcantara, Jennifer Scalici, Rodney P. Rocconi, and **Gary A. Piazza** (2015) “Targeting phosphodiesterase 10A for chemoprevention and treatment of ovarian cancer” *AACR Advances in Ovarian Cancer*.
137. R. Barnett, K. Tripathi, D. Clark, L. Bachaboina, J. M. Scalici, **G. Piazza**, R. P. Rocconi and K. Palle (2015) “Allyl isothiocyanate sensitizes ovarian cancer to carboplatin and olaparib”. *Society for Gynecological Oncology Conference*.
138. Adam B. Keeton, Bing Zhu, Kevin J. Lee, Joshua C. Canzoneri, Sara C. Sigler, Ashley S. Lindsey, Veronica Ramirez-Alcantara, Luciana Barnes, Tyler E. Mattox, Kate McConnell, Kristy L. Berry, Jacob Valiyaveetil, Xi Chen, Michael R. Boyd, **Gary A. Piazza**. “Discovery and in vitro and in vivo characterization of a novel, small-molecule RAS inhibitor class” *Proc. AACR* 2016: 326.
139. Kevin J. Lee, Ashley S. Lindsey, Luciana Madeira da Silva, Alisa Trinh, Bernard Gary, Joel Andrews, Veronica Ramirez-Alcantara, Adam B. Keeton, Wen-Chi Chang, Margie Clapper, **Gary A. Piazza** “Beta-catenin nuclear translocation in colorectal cancer cells is suppressed by PDE10A inhibition, cGMP elevation, and activation of PKG” *Proc. AACR* 2016: 331.
140. Bing Zhu, Xi Chen, Veronica Ramirez-Alcantara, Kevin Lee, Jacob Valiyaveetil, Joshua Canzoneri, Sara Sigler, Kristy Berry, Ashley Lindsey, Adam Keeton, Michael R. Boyd, **Gary A. Piazza** “A novel RAS inhibitor potently and selectively suppresses lung tumor cell growth by blocking Ras-Raf binding” *Proc. AACR* 2016: 1238.
141. Ashley S. Lindsey, Kevin Lee, Bing Zhu, Ritu Arora, Dennis Oтали, Veronica Ramirez-Alcantara, William Grizzle, **Gary Piazza** “PDE10A overexpression in cancer cells and tumors as compared to normal cells and tissues” *Proc. AACR* 2016:4736.
142. Veronica Ramirez-Alcantara, Adam B. Keeton, Bing Zhu, Kevin J. Lee, Joshua Canzoneri,

- Ashley S. Lindsey, Luciana Madeira da Silva Barnes, Kristy Berry, Jacob Valiyaveettil, Xi Chen, Michael R. Boyd, and **Gary A. Piazza** “DC070-547, a novel RAS inhibitor potently and selectivity inhibits colon tumor growth *in vitro* and *in vivo*” *AACR Colorectal Cancer Conference: 2016 Sept 17-20; Tampa FL*.
143. Kevin Lee, Xi Chen, Jacob Valiyaveettil, Ashley S. Lindsey, Joel Andrews, Veronica Ramirez-Alcantara, Adam B. Keeton, **Gary A. Piazza**, Margie Clapper, and Wen-Chi Chang, “Novel non-COX inhibitory sulindac derivative with PDE10 inhibitory activity reduces incidence and multiplicity of colon tumors in the *APC^{min}* mouse model”. *American Association for Cancer Research Colorectal Cancer: Conference: 2016 Sept 17-20; Tampa FL*.
144. Ashley S. Lindsey, Kevin Lee, Joel Andrews, Wen-Chi Chang, Veronica Ramirez-Alcantara, Marcus Tan, Margie Clapper, and **Gary A. Piazza** “PDE10A overexpression in colon cancer cells and tumors as compared to normal colonocytes and colon mucosa”. *American Association for Cancer Research Colorectal Cancer: Conference: 2016 Sept 17-20; Tampa FL*.
145. Kevin J. Lee, Xi Chen, Jacob Valiyaveettil, Ashley S. Lindsey, Joel Andrews, Veronica Ramirez-Alcantara, Adam B. Keeton, **Gary A. Piazza**, Harry Cooper, Margie Clapper, and Wen-Chi L. Chang. “Novel non-COX inhibitory sulindac derivative with β -catenin suppressing activity reduces the formation of colorectal adenomas and adenocarcinomas in the *APC^{+/-min-FCCC}* mouse model”. *Proc. AACR 2017:5243*.
146. Luciana Madeira da Silva, Elaine Gavin, Kevin J. Lee, Veronica Ramírez-Alcántara, Kristy L. Berry, Holly T. Taylor, Alla Musiyenko, Ileana V. Aragon, Adam B. Keeton, Jennifer Scalici, Rodney P. Rocconi, **Gary A. Piazza**. "Phosphodiesterase 10A inhibition as a novel approach to suppress β -catenin signaling in ovarian cancer cells" *Proc. AACR, 2017:5174*.
147. Bing Zhu, Xi Chen, Jacob Valiyaveettil, Joshua Canzoneri, Kevin Lee, Kate Saville, Kristy Berry, Luciana Barnes, Tyler Mattox, Ashley Lindsey, Antonio Ward, Veronica Ramírez-Alcántara, Adam Keeton, Mitchell Boyd, **Gary Piazza**. Novel RAS inhibitor DC070-547 blocks Ras-Raf binding, EGFR binding to Ras signaling complex, and EGFR activation of Ras signaling to suppress lung tumor cell growth. *Proc. AACR 2017:4972*.
148. Ramírez-Alcántara, V., Zhu, B., Chen, X., Savai, R., Subbarayal, P., Schuler, M.A., Lee, K., Lindsey, A., Berry, K.L., Otali, D., Canzoneri, J.C., Valiyaveettil, J., Keeton, A.B., Coward, L., Gorman, G., Grizzle, W., Boyd, M., **Piazza, G.A.** Characterization of a novel PDE10 inhibitor in lung tumor cells and orthotopic mouse model of lung cancer. *Proc. AACR 2017:1140*.
149. Ward, A., Chen, X., Valiyaveettil, J., Zhu, B., Ramírez-Alcántara, V., Lee, K., Lindsey, A., Berry, K., Mattox, T., McConnell, K., Boyd, M., **Piazza, G.A.**, Keeton, A.B. Characterization of a novel RAS inhibitory compounds with potent anti-tumor activity. *Proc. AACR 2017:5159*.
150. Mattox, T.E., Lee, K.J., Chen, X., Valiyaveettil, J., Maderia de Silva, L., Lindsey, A.S., Keeton, A.B., Zhu, B., Boyd, M., **Piazza, G.A.** Novel Ras inhibitor DC070-547 and ADT-006 potently and selectively inhibit the growth of pancreatic tumor cells harboring constitutively activated RAS by blocking RAS-effector binding and signaling. *Proc. AACR 2017:5165*.

151. Saville K., Lee, K., Mattox, T., Chen, X., Valiyaveetil, J., Berry, K., Ramírez-Alcántara, V., Zhu, B., Keeton, A.B., Boyd, M., **Piazza, G.A.**, Lindsey, A. Sensitivity of melanoma cells to a novel class of RAS inhibitors. *Proc. AACR* 2017:5166.
152. Boyd, A, Baskar, G, Petty, T, Keeton, A, **Piazza, G.**, and W. Richter “cAMP-phosphodiesterase (PDE4D) as a target for colon cancer therapy” *FASEB* 2017: 31, 671.11
153. Luciana Madeira da Silva, Tyler E. Mattox, Adam B. Keeton, Bing Zhu, Kristy L. Berry, Alla Musiyenko, Elaine Gavin, Kevin Lee, Veronica Ramírez-Alcántara, Yulia Y. Maxuitenko, Xi Chen, Jacob Valiyaveetil, Michael R. Boyd, Jennifer Scalici, Rodney P. Rocconi, and **Gary A. Piazza**. "Targeting constitutively active RAS signaling in high grade serous ovarian carcinoma (HGSOC) with ADT-006, a novel small molecule that blocks RAS-effector interactions" *Proceedings of the AACR International Conference on Translational Cancer Medicine*, São Paulo, Brazil, 2017: B54.
154. Luciana Madeira da Silva, Elaine Gavin, Matthew Kiszla, Rodney P. Rocconi, **Gary A. Piazza**, and Jennifer Scalici “Targeting inflammation and polyamine synthesis in epithelial ovarian cancer: PDE10 and ODC1 inhibition in c-myc amplified disease”. *Society of Gynecological Oncology Conference*, 2017.
155. Jinda Fan, Norio Yasui, Ben Kasten, Sharon Samuel, Kurt Zinn, Xi Chen, **Gary Piazza**, Zonghua Luo, Zhude Tu “Radiosynthesis and evaluation of fluorine-18 and carbon-11 radiotracers for PET Imaging of PDE10A in colorectal cancer. *American Chemical Society Conference*, New Orleans, 2018.
156. Alexander Richard, Hamdy M. Abdel-Rahman, Jung Hyun Kim, Lana Vukadin, **Gary A. Piazza**, Eun-Young Erin Ahn “A novel quinazolin-4(3H)-one/schiff base hybrid phosphodiesterase 4 inhibitor as a potential therapeutic agent for leukemia”. *AACR*, 2018.
157. **Gary A. Piazza**, Ashleigh Neese, Kevin Lee, Adam Keeton, Yulia Maxuitenko, Veronica Ramirez Alcantara, Kristy Berry, Jacob Valiyaveetil, Antonio Ward, Luciana Madeira da Silva, Jennifer Scalici, Bing Zhu, Tyler Mattox, Xi Chen, Margie Clapper, Harry Cooper, Wen-Chi Chang. “Inhibition of a novel cancer target, PDE10, suppresses Wnt/ β -catenin signaling and colon tumorigenesis: benefits from combining with ornithine decarboxylase inhibitors”. *AACR*, 2018.
158. Shailaja Kesaraju Allani, Xi Chen, Verónica Ramírez-Alcántara, Joshua Canzoneri, **Gary A. Piazza** and Herbert Weissbach* “Upregulation of cellular protective mechanisms against oxidative damage via pharmacological intervention” *Experimental Biology*, 2019
159. Adam B. Keeton, Ph.D., Antonio Ward, Xi Chen, Jacob Valiyaveetil, Bing Zhu, Veronica Ramirez-Alcantara, Yulia Maxuitenko, Kristy Berry, Tyler E. Mattox, Michael R. Boyd and **Gary A. Piazza** “A Novel RAS Inhibitor, MCI-062, Inhibits Colon Tumor Growth *In Vivo* and Activates Antitumor Immunity”. *AACR* 2019.
160. Mattox TE, Chen X, Valiyaveetil J, Maxuitenko Y, Zhu B, Ward AB, Ramirez-Alcantara V, Berry K, Boyd, MR, Keeton AB, and **Piazza GA**. Novel RAS inhibitor, MCI-062, potently and selectively inhibits the growth of *KRAS* mutant pancreatic tumor cells by blocking GTP loading of RAS”. *AACR* 2019.

161. Antonio Ward, Xi Chen, Jacob Valiyaveetil, Kevin Lee, Yulia Maxuitenko, Veronica Ramirez-Alcantara, Kristy Berry, Luciana Madeira da Silva, Bing Zhu, Tyler Mattox, Michael R. Boyd, Adam Keeton, and **Gary A. Piazza** “A novel PDE10/ β -catenin inhibitor, MCI-030, for the treatment of colorectal cancer”. AACR 2019.
162. Bing Zhu, Veronica Ramirez-Alcantara, Antonio Ward, Kristy Berry, Adam B. Keeton, Michael R. Boyd, Yulia Maxuitenko, Xi Chen, **Gary A. Piazza** “A novel PDE10/ β -catenin inhibitor, MCI-048, suppresses lung tumorigenesis to block metastasis”. AACR 2019.
163. Mattox TE, Norton TS, Keeton AB, Maxuitenko YY, Berry KL, Zhu B, Musiyenko A, Gavin E, Ramirez-Alcantara V, Chen X, Valiyaveetil J, Scalici J, Rocconi RP, **Piazza GA**, Madeira da Silva LM “Targeting RAS and downstream signaling in high-grade serous ovarian carcinoma with novel RAS effector binding inhibitors”. AACR 2019.
164. **Piazza, G.A.** “Novel PDE10 inhibitors with anticancer activity that suppress Wnt-induced beta-catenin transcription by activating cGMP/PKG signaling” *Journal Translational Medicine*. Vol 17. Presented as an oral presentation at the 2019 cGMP Signaling Conference, Mainz, Germany.
165. **Piazza, G.A.**, Sigler, S.C., Maxuitenko, Y., Ward, A., Alawa, M., Abdel-Halim, M, and A.H. Abadi, “Abazafil: a first-in-class, highly potent and selective, allosteric inhibitor of phosphodiesterase 5 with penile erection and cognition enhancing properties”, *Journal Translational Medicine* Vol 17. Presented as a poster at the 2019 cGMP Signaling Conference, Mainz, Germany.

PATENTS

1. **Piazza, G. A.**, and A. Mazur (Filed 1991) "Treatment of skin wrinkles in mammalian skin by topical application of a lysophosphatidic acid compound or its cyclic derivative or pharmaceutically acceptable salt". Granted 1993.
2. **Piazza, G. A.**, J. Kasting, and A. Mazur (Filed 1992) “Use of deoxy- and halo-analogs of lysophosphatidic acid for repair of photodamaged skin”. Granted 1994.
3. **Piazza, G. A.**, and A. Mazur (Filed 1993) "Methods of using lysophosphatidic acid derivatives for treating hyperproliferative conditions”.
4. Pamukcu, R. and **G. A. Piazza** “Methods for inhibiting neoplastic cells and related conditions by exposure to substituted N-arylmethyl and heterocyclicmethyl-1H-pyrazoloquinoline amines” 5,852,035; Granted Dec. 22, 1998.
5. **Piazza, G. A.**, Pamukcu, R. and W. J. Thompson “Methods for identifying compounds for inhibition of cancerous lesions”. 5,858,694; Granted Jan. 12, 1999.
5. Pamukcu, R. and **G. A. Piazza** “Method of treating a patient having precancerous lesions with phenyl pyrimidinone derivatives”. Granted Feb. 23, 1999.

6. **Piazza, G. A.**, Skopinska, E., and R. Pamukcu. "Methods for treating patients with psoriasis by administering substituted sulfonyl indenyl acetic acids, esters and alcohols". 5,902,827; Granted May 11, 1999.
7. Pamukcu, R. and **G. A. Piazza** "Methods for inhibiting neoplastic cells by exposure to substituted N-cycloalkylmethyl-1-H-pyrazolo (3,4, -B) quinolone-4 amines". 5,942,520; Granted Aug. 24, 1999.
8. Sperl, G., **Piazza, G. A.**, Pamukcu, R., Gross, P. and K. Brendel "Substituted condensation products of n-benzyl-3-indenyl acetamides with heterocyclic aldehydes". 5,948,779; Granted Sept. 7, 1999.
9. Sperl, G., **Piazza, G. A.**, Pamukcu, R., Gross, P. and K. Brendel "Methods for inhibiting neoplastic cells and related conditions by exposure to thienopyrimidine derivative". 5,948,911; Granted Sept. 7, 1999.
10. **Piazza, G. A.**, Pamukcu, R., and E. Skopinska "Methods for treating patients with sarcoidosis by administering substituted sulfonyl indenyl acetic acids, esters and alcohols". 5,958,982; Granted Sept. 28, 1999.
11. Sperl, G., **Piazza, G. A.**, Pamukcu, R., Gross, P. and K. Brendel "Methods for treating patients having precancerous lesions with substituted indene derivatives". 5,965,619; Granted Oct. 12, 1999.
12. **Piazza, G. A.** and R. Pamukcu. "Methods for inhibiting neoplastic cells and related conditions by exposure to quinazoline derivatives". 5,990,117; Granted Nov. 23, 1999.
13. Sperl, G., Gross, P., Brendel, K., **Piazza, G.** and R. Pamukcu. "Substituted methoxy benzylidene indenyl-acetic and propionic acids for treating patients with precancerous lesions". 5,998,477; Granted Dec. 7, 1999.
14. Sperl, G., Gross, P., Brendel, K., **Piazza, G. A.**, and R. Pamukcu "Substituted condensation products of 1H-indenyl-hydroxyalkanes with aldehydes for neoplasia". 6,028,116; Granted Feb. 22, 2000.
15. Pamukcu, R and **G. A. Piazza**. "Method for inhibiting neoplastic lesions by administering 4-(arylmethylene)-2,3-dihydro-pyrazol-3-ones". 6,034,099; Granted March 7, 2000.
16. Pamukcu R. and **G. A. Piazza**. "Method for inhibiting neoplastic cells and related conditions by exposure to quinazolinedione and pyridopyrimidinedione derivatives". 6,037,345; Granted March 14, 2000.
17. Pamukcu R. and **G. A. Piazza**. "Method of inhibiting neoplastic cells with tetracyclic pyrido[3,4-B] indole derivatives". 6,046,199; Granted April 4, 2000.
18. Pamukcu, R. and **G. A. Piazza**. "Method of treating a patient having precancerous lesions with amide quinazoline derivatives", 6,046,206; Granted April 4, 2000.
19. **Piazza, G. A.** and R. Pamukcu. "Method of treating a patient having precancerous lesions with phenyl pyridinone derivatives". 6,046,216; Granted April 4, 2000.

20. Sperl, G., Gross, P., Brendel, K., **Piazza, G.** and R. Pamukcu. "Substituted benzylidene indenyl formamides, acetamides and propionamides". 6,063,818; Granted May 16, 2000.
21. Sperl, G. J., Gross, P., Brendel, P., **Piazza, G. A.** and R. Pamukcu. "Substituted condensation products of N-benzyl-3-indenylacetamides heterocyclic aldehydes for neoplasia". 6,066.634; Granted May 23, 2000.
22. Sperl, G. J., Gross, P., Brendel, P., **Piazza, G. A.** and R. Pamukcu. "Method of inhibiting neoplastic cells with pyrazopyridazinone derivatives". 6,077,842; Granted June 20, 2000.
23. Sperl, G. J., Gross, P., Brendel, P., **Piazza, G. A.** and R. Pamukcu. "Substituted methoxy benzylidene indenyl acetic and propionic acids for treating patients with precancerous lesions". 6,121,321; Granted Sept. 19, 2000.
24. Pamukcu, R. and **Piazza, G. A.** "Method of inhibiting neoplastic cells with pyrazopyridazinone derivatives". 6,124,303; Granted Sept. 26, 2000.
25. Pamukcu, R. and **Piazza, G. A.** "Method for inhibiting neoplastic cells and related conditions by exposure to thienopyrimidine derivatives". 6,133,271; Granted Oct. 22, 2000.
26. **Piazza, G. A.** and R. Pamukcu. Methods for using a phosphodiesterase in pharmaceutical screening to identify compounds for treatment of neoplasia". 6,156,528; Granted Dec. 5, 2000.
27. Sperl, G. J., Gross, P., Brendel, P., **Piazza, G. A.** and R. Pamukcu. "Substituted condensation products of N-benzyl-3-indenylacetamides with heterocyclic aldehydes for neoplasia". 6,166,053; Granted Dec. 26, 2000.
28. Wang, X., Sperl, G., Gross, P., Pamukcu, R., and **G. A. Piazza.** "Fused disubstituted diazine derivatives with nitrogen containing substituents in position one for the treatment of neoplasia". 6,180,629; Granted Jan. 30, 2001.
29. **Piazza, G. A.** and R. Pamukcu. "Method of treating a patient having precancerous lesions with phenyl purinone derivatives". 6,200,980; Granted March 13, 2001.
30. Lu, L., R. Pamukcu, W.J. Thompson, **G. A. Piazza,** H. Li, and B. Zhu. "Method of using a novel phosphodiesterase in pharmaceutical screening to identify compounds for treatment of neoplasia". 6,200,771; Granted March 13, 2001.
31. Pamukcu, R. and **G. A. Piazza.** "Method for treating neoplasia with amino or pyridylamino cyclobutene derivatives", 6,211,220; Granted April 3, 2001.
32. Sperl, G. J., **Piazza, G. A.** and R. Pamukcu. "Method of inhibiting neoplastic cells with indole derivatives". 6,358,992; Granted March 19, 2002.
33. Pamukcu, R. and **G. A. Piazza.** "Method for treating neoplasia by exposure to substituted benzimidazole derivatives", 6,369,092; Granted April 9, 2002.
34. Pamukcu, R. and **G. A. Piazza.** "Method for inhibiting neoplastic cells with 4,5-diaminopyrimidine", 6,380,206; Granted April 30, 2002.

35. Pamukcu, R. and **G. A. Piazza**. "Method for inhibiting neoplastic cells with indole derivatives", 6,410,584; Granted June 5, 2002.
36. Pamukcu, R. and **G. A. Piazza**. "Method for treating neoplasia by exposure to N, N'-substituted benzimidazol-2-ones", 6,420,410; Granted July 16, 2002.
37. Pamukcu, R. and **G. A. Piazza**. "Substituted condensation products of N-benzyl-3-indenylacetamides with heterocyclic aldehydes for neoplasia", 6,426,349; Granted July 30, 2002.
38. Pamukcu, R. and **G. A. Piazza**. "Methods for treating neoplasia by exposure to benzothienopyrimidine derivatives", 6,432,650; Granted August 13, 2002.
39. Pamukcu, R. and **G. A. Piazza**. "Method for inhibiting neoplastic cells with isoquinoline derivatives", 6,486,155; Granted November 26, 2002.
40. Pamukcu, R. and **G. A. Piazza**. "Method for identifying compounds for inhibiting of neoplastic lesions, and pharmaceutical compositions containing such compounds", 6,500,610; Granted December 31, 2002.
41. **Piazza, G. A.** et al., "Diagnostic methods for neoplasia", 6,875,575; Granted April 5, 2005.
42. **Piazza, G.A.** and R.C. Reynolds, "Novel sulindac derivatives for the treatment of neoplasia"; US Patent Application: 7,649,373; Filed 2007.
43. **Piazza, G.A.**, Keeton, A.B., Whitt, J.D. and J.A. Maddry, "5-Quinolinone and imidazopyrimidine compounds and use thereof for reversal of multidrug resistance"; US Patent Application; Filed 2008.
44. **Piazza, G.A.** and A.H. Abadi, "Novel alkyl halide derivatives of tadalafil with anticancer properties". WPO063223, filed 2009.
45. **Piazza, G.A.** and R.C. Reynolds, "Derivatives of sulindac, use thereof, and preparation thereof". US Patent 8044018, filed 2011.
46. **Piazza, G.A.** and A. H. Abadi, "Derivatives of celecoxib and their use thereof". WPO 125884, filed 2012.
47. Tarek H. and **Piazza, G.A.** "Amide amino acid derivatives of NSAIDs as potent inhibitors of colon tumor cell growth", filed 2011.
48. **Piazza, G.A.** "Treatment and diagnosis of cancer and precancerous conditions using PDE10 inhibitors and methods to measure PDE10 expression". U.S. Patent Application No. 61/845,787.
49. **Piazza, G.A.**, Chen, X., Keeton, A.B. and M.R. Boyd. "Indenyl compounds, pharmaceutical compositions, and medical uses thereof", U.S. Patent Application No. 14/571617.
50. **Piazza, G.A.**, Chen, X., Keeton, A.B. and M.R. Boyd. "Methods of treating or preventing Ras-mediated diseases", U.S. Patent Application No. 14/571,690.

51. **Piazza, G.A.**, Chen, X., Keeton, A.B. and M.R. Boyd "Ras-inhibiting indenyl acetamide compounds, compositions, and uses", PCT/U.S. Patent Application No. 14/70511.
52. **Piazza, G.A.**, Chen, X., Keeton, A.B and M. R. Boyd. "Compounds, compositions, and methods of treating Ras-mediated diseases", U.S. Patent Application No. 62/092,491.
53. **Piazza, G.A.**, Chen, X., Keeton, A.B. and M.R. Boyd. "Ras inhibitory indole compound, composition, and method of treatment", U.S. Patent Application No. 62/092,498.
54. **Piazza, G.A.** Chen, X., and Weissbach, H. "Novel derivatives of sulindac can protect normal cells against oxidative damage" U.S. Patent Application No. 16/495,013.

PRESENTATIONS

1. IBC International Conference on Tumor Suppressors and Oncogenes. Talk entitled, "How do NSAIDs Prevent Cancer?" San Francisco CA, July 1997.
2. International Congress of Oncology, Talk entitled, "Biochemical and cellular mechanisms for the cancer chemopreventive properties of NSAIDs". Athens Greece, October 1997.
3. IBC International Conference on Apoptosis. Talk entitled: "Mechanism for the chemopreventive properties of NSAIDs". San Diego CA, October 1997.
4. Strategic Research Institute Conference, "Emerging Concepts in Cancer Therapy". Talk entitled: "Induction of apoptosis by FGN-1, a drug in development for the treatment of precancerous lesions." Princeton NJ, February 1998.
5. "Biochemical and Cellular Mechanisms for the Antineoplastic Properties of Nonsteroidal Anti-inflammatory Drugs" University of Colorado, February 1998.
6. "Biochemical and Cellular Mechanisms for the Antineoplastic Properties of Nonsteroidal Anti-inflammatory Drugs" Columbia University, New York NY, March 1998.
7. Prostate Cancer: Advances in Understanding, Diagnostics and Therapy. Talk entitled: "Antineoplastic properties of the apoptosis-inducing drug, FGN-1." Washington DC, March 1998.
8. "Biochemical and Cellular Mechanisms for the Antineoplastic Properties of Nonsteroidal Anti-inflammatory Drugs" Fox Chase Cancer Center, Philadelphia PA, April 1998.
9. Molecular Basis for the Prevention of Colon, Breast and other Cancers by Aspirin and other NSAIDs. Talk entitled: "Is inhibition of tumor development by NSAIDs related to cyclooxygenase inhibition?" NIHES, Research Triangle Park NC, May 1998.
10. IBC International Conference on Apoptosis, talk entitled, "Apoptosis-inducing properties of exsulind, a drug in Phase III trials for cancer indications". San Francisco CA, December 1998.
11. Gastroenterology Department Grand Rounds, Medical College of Pennsylvania, "Mechanisms for the antineoplastic properties of NSAIDs", Philadelphia PA, January 1999.

12. American Gastroenterology Association Conference Symposium entitled “Novel targets for colon cancer chemoprevention, Orlando FL, May 1999.
13. CTRC Institute for Drug Development, Drug Development Lecture, “Cyclooxygenase independent- mechanisms for the antineoplastic properties of NSAIDs”, November 2001.
14. University of Texas Health Sciences Center San Antonio, Department of Pharmacology, “Cyclooxygenase independent mechanisms for the antineoplastic properties of NSAIDs”, February 2002.
15. Anticancer Drug Discovery Summit, “Cancer chemopreventive properties of NSAIDs and COX-2 inhibitors, June 2003. (Chaired conference).
16. Assays and Cellular Targets Conference, “A phenotypic HTS assay for identifying compounds that reverse drug resistance”, San Diego, October 2007 (Chaired session).
17. Assay Development and Screening Technologies Conference, “HTS to identify MRP1 inhibitors for reversal of multidrug resistance”, San Francisco, June 2008 (Chaired session).
18. NCI ABC Conference. “High throughput screening to identify MRP1 inhibitors for reversal of multidrug resistance”, Frederick, MD, October 2008.
19. 4th Annual Modern Drug Discovery and Development Conference, “A novel sulindac derivative with strong anticancer activity”, San Diego, October 2008.
20. Gordon Research Conference on Cyclic Nucleotides and Phosphodiesterases (2010, 2012, 2014, 2018) - invited for a full talk.
21. 1st Annual Cancer Pharmacology Research Conference, “A novel Wnt/ β -catenin inhibitor for colorectal cancer”. (Plenary speaker), New York, NY, 2017.
22. Cyclic GMP Conference, “Role of cGMP in regulating tumor cell growth”. (Keynote speaker), Mainz, Germany, June 2019.
23. International Biomedicine Summit, “Novel anticancer drug development candidates targeting PDE10 to selectively block Wnt and RAS signaling” (Plenary speaker), Nanning, China, August 2019.
24. 2nd Annual Cancer Pharmacology Research Conference, “Novel anticancer drug development candidates targeting PDE10 to selectively block Wnt and RAS signaling”. (Plenary speaker), Weifang, China, 2019.
25. “Novel RAS inhibitor”, Discovery on Target, Small G Protein session, September 2020.
26. “Novel RAS inhibitor”, RAS Targeted Drug Development Summit, Co-chaired workshop entitled: “Expanding novel approaches toward RAS drug discovery with degradation strategies”. September 2020.

27. *Non-conference scientific presentations:* Roche Pharmaceuticals (2005), Purdue University (2006), Fox Chase Cancer Center (2007), Johns Hopkins (2007), Hormel Institute (2008), Mayo Clinic (2008), SUNY at Stony Brook (2008), St. John's University (2008), University of Tennessee (2009), USA Mitchell Cancer Center (2009), University of Alabama at Birmingham (2004, 2006, 2008, 2010, 2014), Samford University (2010), Cancer Research Center of Hawaii (2010), University of Kansas Cancer Center (2010, 2014), University of South Alabama (2010), University of South Carolina (2012), Georgia Regents University (2013), Tuskegee University (2013), University of Kentucky (2014), Texas Tech Health Sciences Center (2015), University of North Carolina (2015), Wake Forest University (2015), Beijing Technology and Business University, Beijing China (2015), Zhejiang University (2015), Changzhou University, Changzhou Chia (2015), Jinan University, Hangzhou China (2015), Sun Yat-Sen University, Guangzhou China (2015), University of Minnesota (2016), Hormel Research Institute (2016), MD Anderson (2016), UTMB Galveston (2017), MD Anderson (2017), University of Augusta (2017), LSU (2017), UAB (2018), City University of Hong Kong (2018), Fox Chase Cancer Center (2019), Max Planck Institute, Germany (2019), Tianjin Medical University, China (2019), Auburn University (2020), University of South Alabama (2020).

FUNDING RECORD

ACTIVE

Grant number: 5 R01 CA131378-10 (Piazza) 06/1/15-12/31/20 (NCE) 1.8 calendar
NIH/NCI \$268,800

Title: Novel sulindac derivatives for colon cancer chemoprevention

Role: Principal Investigator (PI)

Description: This project will synthesize and design novel sulindac derivatives relating to a drug development candidate, MCI-030, that contain a pyridine substitution for colorectal cancer by targeting phosphodiesterase 10 and to evaluate efficacy, safety, and mechanism of action using *in vitro* and *in vivo* models. Additional aims are to study the involvement of PDE10 in colon tumorigenesis and to study additional analogs.

Grant number: 5 R01 CA197147-04 (Piazza) 07/15/16-06/30/21 2.4 calendar
NIH/NCI \$228,750

Title: Phosphodiesterase 10A, a novel target for lung cancer chemoprevention

Role: Principal Investigator (PI)

Description: This project will synthesize and design a novel group of sulindac derivatives relating to a drug development candidate, MCI-048, that contain a methyl-pyrrolidene substitution for lung cancer by targeting phosphodiesterase 10 and to evaluate their efficacy, safety, and mechanism of action using *in vitro* and *in vivo* models. Additional aims are to study the involvement of PDE10 in lung tumorigenesis and to study additional analogs.

Grant number: Piazza (MPI) 03/01/20-02/28/25 1.2 calendar
NIH/NCI: 1 R01CA238514-01 \$200,000

Title: Novel sulindac derivatives targeting cGMP signaling to enhance cancer immunotherapy

Role: Principal Investigator (MPI with Dr. Gang Zhou, Augusta University)

Description: This proposal will synthesize and characterize a novel series of non-COX inhibitory sulindac derivatives using prototype derivatives that target PDE5 and/or PDE10, while optimizing drug-like properties to increase systemic exposure.

A18-0041 (Piazza) 01/01/20-12/31/20 0.12 calendar
BCRFA \$20,000

Role: Principal Investigator

Title: Evaluation of a novel sulindac derivative for breast cancer chemoprevention in a rat model of chemical-induced mammary tumorigenesis.

Description: The purpose of this project is to evaluate a novel sulindac derivative, MCI-715, for breast cancer in a mouse model of metastatic disease.

HHSN28120032 (Clapper) 07/25/18-07/24/21 0.96 calendar
NIH via Fox Chase Cancer Center \$40,986

Title: A Novel Non-COX inhibitory Sulindac Derivative for Colorectal Cancer Chemoprevention with Selective PDE10 and Wnt/ β -Catenin Inhibitory Activity

Role: Sub-contract PI

Description: Use a panel of biomarkers to assess chemopreventive activity of a novel sulindac derivative, MCI-030.

PENDING

1R01CA254197-01 Piazza (PI) 07/01/20-06/30/25 2.4 calendar
NIH/NCI \$282,223

Title: Novel inhibitor for oncogenic RAS for lung cancer

Role: Principal Investigator

Description: The long-term goals are to better understand mechanism of action, identify a drug development candidate for IND-enabling safety assessment and establish a mechanistic rationale to select patients for clinical trials based on activated RAS levels.

Scored in 2nd percentile; funding expected

1 R01 CA260894-01 Piazza (PI) 01/01/21-06/30/26 2.4 calendar
NIH/NCI \$359,930

Title: A novel reversible pan-RAS inhibitor for colorectal cancer

Role: Principal Investigator

Description: The long-term goals of this project are to: 1) identify an orally bioavailable RAS inhibitor prodrug for IND-enabling GLP toxicity testing, 2) use clinically-relevant colon tumor organoid models to confirm antitumor activity of RAS inhibitor and activated RAS levels as a useful biomarker or companion diagnostic, and 3) explore potential benefits of combining RAS inhibitor with immunotherapy.

Resubmitted 8/20

1 R01CA247371 (Zhou) 9/1/18 – 8/31/23 0.48 calendar
NIH/NCI \$21,600

Tumor Oxidative Stress and Antitumor Immunity

Description: This application seeks to synthesize a novel series of indomethacin derivative to increase antitumor efficacy.

Role: Sub-award Principal Investigator.

Scored in 11th percentile; To be resubmitted

Joint US Egypt Grant (Piazza) 6/1/19 – 5/31/21 0.36 calendar

National Academy of Sciences \$200,000
 Targeted Nano-delivery System(s) of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)-Amino Acids Conjugates with Potential Colorectal Cancer (CRC) Chemoprevention
 Role: Principal Investigator
 Description: The application seeks to develop safer and more effective NSAIDs derivatives for colorectal cancer chemoprevention by designing out cyclooxygenase inhibitory activity and a nanoparticle formulation as a strategy to provide colon-target delivery.
Awaiting peer review

COMPLETED

Grant number: 5 R01 CA155638-06 (Piazza) 8/16/12-05/31/19 2.4 calendar
 NIH/NCI \$285,420
 Title: PDE5, a novel target and inhibitor for breast cancer chemoprevention
 Role: Principal Investigator (PI)
 Description: The goal is to study the involvement of the cGMP specific phosphodiesterase isozyme, PDE5 as a target for breast cancer chemoprevention and to develop novel PDE5 inhibitors.

W81XWH-17-1-0229 (Scalici) 09/15/17-09/14/19 0.24 calendar
 DOD \$250,000
 Title: Novel NSAID Derivatives for the Chemoprevention of Ovarian Cancer in the Spontaneous Hen Model
 Role: Collaborator
 Title: The purpose of this project is to evaluate a novel PDE10 inhibitor, MCI-030, for ovarian cancer in an animal model.

Grant number: R43CA206807 (Piazza, subaward) 9/1/2016 – 8/31/2018 0 calendar
 Agency: NIH/NCI \$15,000
 Title: Novel RAS inhibitor prodrug for colorectal cancer
 Role: Principal Investigator (MPI)
 Description: A series of novel RAS inhibitor prodrugs will be synthesized and evaluated for oral bioavailability and anti-tumor efficacy by pharmacokinetic studies and a mouse colon tumor model.

1 R01CA148817-05 (Piazza) 8/01/10-7/31/16 3.6 calendar
 NIH/NCI \$1,672,588
 Title: Development of a novel sulindac sulfide amide for colorectal cancer chemoprevention
 Role: Principal Investigator (PI)
 Description: The goal of this project is to study and develop a non-cyclooxygenase inhibitory amide derivative of sulindac for colorectal cancer chemoprevention and optimize formulations to improve oral bioavailability.

3R01CA155638-04S1 (Piazza) 8/1/15 - 7/31/17 0 calendar
 NIH/NCI Diversity Supplement to Dr. Luciana Barnes \$121,281
 Title: PDE5, a novel target and inhibitor for breast cancer chemoprevention
 Role: Principal Investigator (PI)
 Description: Role of PDE10 in ovarian cancer was explored.

1R43CA189613-01A1 (Canzoneri and Piazza) 4/1/2015 - 3/31/2016 1.2 calendar
 NIH/NCI \$225,000

Title: A novel phosphodiesterase target isozyme and class of inhibitors for lung cancer
 Role: Principal Investigator (MPI)
 Description: A series of novel PDE10 inhibitors will be synthesized and evaluated for therapeutic efficacy using a mouse orthotopic model of lung cancer.

Contract research (Piazza) 11/1/16-3/30/17 1.2 calendar
 Palobiofarma \$50,000

Title: Evaluate Palobiofarma's PDE10 inhibitor (PBF999) for *in vitro* anticancer activity and target specificity

Role: Principal Investigator (PI)

Description: The goal was to examine the effects of a PDE10 inhibitor, PBF999 on tumor cell growth, protein kinase G activation and suppression of β -catenin levels in cancer cell lines.

1 R21CA182941-01(Piazza and Zhu) 2/1/15 - 1/31/17 1.2 calendar
 NIH/NCI \$362,029

Title: PDE inhibition by sulindac sulfide amide derivatives for lung cancer chemoprevention

Role: Principal Investigator (MPI, Contact)

Description: This project will evaluate the efficacy, mechanism, and toxicity of a novel sulindac derivative referred to as methoxy-sulindac sulfide amide in a mouse model of chemical-induced lung tumorigenesis.

1 R21CA160280-01 (Xi and Piazza) 03/01/12-02/29/15 0.6 calendar
 NIH/NCI \$345,597

Title: MicroRNA, sulindac and breast cancer chemoprevention

Role: Principal Investigator (MPI)

Description: The goal of this application was to determine changes in microRNA expression levels in human breast tumor cells treated with sulindac to study of mechanism action as it relates to inhibitory effects on tumor growth and invasion.

3 R01CA155638-02S1 (Piazza) 9/20/12-8/31/15 0.6 calendar
 NIH/NCI Administrative Supplement \$160,041

Title: PDE5, a novel target and inhibitor for breast cancer chemoprevention

Role: Principal Investigator (PI)

Description: The goal of this project was to utilize a metabolomic approaches to study mechanism of action of novel anticancer agents.

UAB Breast Cancer SPORE Pilot Grant (Piazza) 10/1/2014 - 9/30/2015 1.2 calendar
 Ras inhibitory drugs for breast cancer \$100,000

Role: Principal Investigator

Description: The aims were to evaluate a novel series of sulindac that show high potency and selectivity to inhibit breast tumor cells with mutant RAS.

1 R01CA131378-01 (Piazza and Reynolds) 1/01/08-12/30/13 3.6 calendar
 NIH/NCI \$1,787,078

Sulindac Derivatives for Colon Cancer Chemoprevention

Role: Principal Investigator (MPI)

Description: The aims were to synthesize and test novel sulindac derivatives for colon cancer chemoprevention.

R464-CR11 (Sorscher and Piazza) 7/1/11-6/30/13 0.6 calendar
 Cystic Fibrosis Foundation \$144,000

Spectral domains optical tomography for the functional characterization of ion transport modulators
 Role: Sub-award Principal Investigator
 Description: The aims of the project were to develop instrumentation that is capable of screening compound libraries for activity in live cells derived from patients with cystic fibrosis.

1 R21 NS067693-01 (Chung) 1/10/10-12/31/11 0.6 calendar
 NIH \$100,000

A Novel HTS Cell-Based Imaging Assay to Identify Chemical Correctors for $\Delta F508-C$

Role: Co-Investigator

Description: The aims were to develop an image-based high content screening assay for cystic fibrosis.

1R21CA137519-01(Prasain) 9/1/10-8/31/11 0.6 calendar
 NIH/NCI \$275,000

Urinary metabolites of cranberry that protect against bladder cancer

Role: Co-Investigator

The aims were to conduct high content analysis of human bladder tumor cells treated with urinary fractions from rats fed a cranberry diet to assess anticancer properties and identify active metabolites.

Breast Cancer Research Program (Reynolds) 5/01/07-4/30/11 0.6 calendar
 Department of Defense \$325,000

Novel Sulindac Sulfide Derivatives for Breast Cancer Chemoprevention

Role: Co-Investigator

Description: The aims were to use high throughput parallel synthesis to generate novel non-cyclooxygenase derivatives of sulindac sulfide for breast cancer chemoprevention.

1 R03CA128021-01 (Piazza) 04/01/07-03/31/11 0.6 calendar
 NIH/NCI \$100,000

A Novel Sulindac Derivative for Colon Cancer Chemoprevention

Role: Principal Investigator

Description: The aims were to study the colon chemopreventive properties of a novel sulindac sulfide derivative that lacks cyclooxygenase inhibitory activity.

1 R21NS059509-01 (Piazza) 04/01/07-03/31/09 1.2 calendar
 NIH/NINDS \$125,000

A Novel HTS Cell-Based Assay for cGMP

Role: Principal Investigator

Description: The aims were to develop a HTS assay to quantify intracellular cyclic GMP levels in cells.

UAB Breast Cancer SPORE Pilot Grant (Piazza) 3/1/08-8/31/09 0.6 calendar
 Evaluation of SRI 21009 for Breast Cancer Chemoprevention \$50,000

Role: Principal Investigator

Description: The aims were to evaluate a novel derivative of sulindac for breast cancer chemoprevention.

1 U54 HG003917-01 (Piazza) 07/01/05-06/30/08 6.0 calendar
 NIH/NHGRI \$6,497,600

An Integrated HTS Approach for the Molecular Library Screening Center Network Initiative

Role: Principal Investigator

Description: The aims of this interdisciplinary project, which involved assay development, high throughput screening, synthetic chemistry, and cheminformatics, was to identify novel small molecule probes for the scientific community to study physiological and disease processes.

1 X01MH077620-01 (Piazza) 04/01/06-03/31/07 0 calendar
NIH/NINDS Resources

Identification of Molecular Probes that Reverse MRP-Mediated Drug Resistance

Role: Principal Investigator

Description: The aims of this project were to identify compounds that reverse multi-drug resistance.

1 R03CA107790-01 (Piazza) 04/01/04-03/31/06 0.6 calendar
NIH/NCI \$100,000

cGMP Phosphodiesterase, A Novel Chemoprevention Target

Role: Principal Investigator

Description: The aims were to study a novel cyclooxygenase independent mechanism for the cancer chemopreventive properties of NSAIDs involving cGMP phosphodiesterase inhibition.

COMMERCIAL AND GOVERNMENT CONTRACTS (from 2001-2011)

<i>NINDS</i>	<i>Deciphera</i>	<i>Ariad</i>	<i>Tapestry</i>	<i>SAIC</i>
<i>Battelle</i>	<i>KuDOS</i>	<i>Ambit</i>	<i>King</i>	<i>Biogen</i>
<i>Lilly</i>	<i>MGI Pharma</i>	<i>Nektar</i>	<i>Aventis</i>	<i>Biomedicine</i>
<i>Bristol Myers</i>	<i>Sonus</i>	<i>Titan</i>	<i>Cerylid</i>	<i>Cystic Fibrosis Foundation</i>