CANCER RESEARCH PROGRAM **Updated: 3/9/2016**

Note: For **all** of the following publications and presentations, investigators at **more than one** of the Partnership institutions participated in the work associated with their preparation. Thus, an asterisk (*) is not provided for each document.

Second funding period (9/1/11-8/31/16):

XII. Veena N. Rao (MSM)/Charles N. Landen, Jr. (UAB) - BRCA1 Deficiency and Epithelial Ovarian Cancers. (Funding period: 9/1/11-8/31/14)

Publications:

1. Qin, Y.; Xu, J.; Aysola, K.; Begum, N.; Reddy, V.; Chai, Y.; **Grizzle, W.E.**; Partridge, E.E.; Reddy, E.S.; **Rao, V.N.** Ubc9 mediates nuclear localization and growth suppression of BRCA1 and BRCA1a proteins. J Cell Physiol. 2011;226:3355-67. Featured online by Global Medical Discovery. PMCID:PMC3329759 http://www.ncbi.nlm.nih.gov/pubmed/21344391.

   Contributions by Dr. Rao: Mentored postdoctoral fellows and research assistant who participated in this study. Accomplished data analysis and interpretation, manuscript writing and worked with Dr. Grizzle during various stages of manuscript submission and publication.
   Contributions by Dr. Grizzle: Provided advice on immunostaining of triple negative breast cancer cells. Participated in discussions and gave critical review of the manuscript during the submission process.

2. Qin, Y.; Xu, J.; Aysola, K.; Oprea, G.; Reddy, A.; Matthews, R.; Okoli, J.; **Cantor, A.**; **Grizzle, W.E.**; Partridge, E.E.; Reddy, E.S.P.; **Landen, C.**; **Rao, V.N.** BRCA1 proteins regulate growth of ovarian cancer cells by tethering ubc9. Am J Cancer Res 2012;2:540-48. PMCID: PMC3433105 http://www.ncbi.nlm.nih.gov/pubmed/22957306

   Contributions by Dr. Rao: Mentored postdoctoral fellows and research assistant who participated in this study. Helped them in data analysis/ interpretation and manuscript writing. Worked with Drs. Landen and Grizzle during various stages of manuscript submission and publication.
   Contributions by Dr. Grizzle: Provided advice on protocols for immunostaining of ovarian cancer cells and tissues. Participated in discussions and gave critical review of the manuscript during the submission process.
   Contributions by Dr. Landen: Had extensive discussions with Dr. Rao on using the appropriate ovarian cancer cell lines to be used for studying expression of BRCA1 and Ubc9. Worked with Dr. Rao during the preparation and publication of the manuscript.
   Contributions by Dr. Cantor: Provided biostatistical support.

3. Aysola, K.; Desai, A.; Welch, C.; Xu, J.; Qin, Y.; Reddy, V.; Matthews, R.; Owens, C.; Okoli, J.; Beech, D.J.; Piyathilake, C.; Reddy, E.S.P.; **Rao, V.N.** Triple-negative breast cancer-an overview. Heredit Genetics 2013;S2.001. PMCID: PMC4181680 http://www.ncbi.nlm.nih.gov/pubmed/25285241

   Contributions by Dr. Rao: Led team in drafting and revising the manuscript.

4. Desai, A.; Xu, J.; Aysola, K.; Qin, Y.; Okoli, C.; Hariprasad, R.; Chinemeren, U.; Gates, C.; Reddy, A.; Danner, O.; Franklin, G.; Ngozi, A.; Cantuaria, G.; **Singh, K.**; **Grizzle, W.**; **Landen, C.**; **Partridge, E.E.**; Montogomery Rice, V.; Reddy, E.S.P.; **Rao, V.N.** Epithelial ovarian cancer-An overview. World J Translat Med. 2014; 3:1-8. http://www.ncbi.nlm.nih.gov/pubmed/25525571

   Contributions by Dr. Rao: Led team in drafting and revising the manuscript.
   Contributions by Dr. Landen: Helped draft and revise the manuscript.
   Contributions by Dr. Singh: Evaluated statistical aspects of the review.

5. Xu, J.; Agyemang, S.; Qin, Y.; Aysola, K.; Giles, M.; Oprea, G.; O' Regan, R.M.; Partridge, E.E.; Harris-Hooker, S.; Rice, V.M.; Reddy, E.S.P.; **Rao, V.N.** A novel pathway that links caveolin-1 down regulation to

BRCA1 dysfunction in SEOC cells. NIHMS639537. Enliven Chall Cancer Detect Ther. 2014;1. pii: 004. http://www.ncbi.nlm.nih.gov/pubmed/25594072

Contributions by Dr. Rao: Led team in drafting and revising the manuscript.

Presentations:

1. **Rao, V.** BRCA-1 and breast cancer health disparities. Spelman College, September 6, 2011.
2. Qin, Y.; Xu, J.; Aysola, K.; Watkins, T.; Begum, N.; Chai, Y.; **Grizzle, W.**; Partridge, E.; Oprea, G.; Reddy, E.S.P.; **Rao, V.N.** Alteration of a novel BRCA1 nuclear trafficking pathway leads to breast cancer. Presented at Curtis Parker student research symposium, MSM held on February 7-8, 2012, MSM, Atlanta, GA.
3. Xu, H.; Kayarthodi, S.; Fang, J.; Fujimura, Y.; Yang, C.; Matthews, R.; Bhat, G.; **Grizzle, W.**; **Rao, V.N.**; Reddy, E.S.P. RED 037F8 and RED 046H6 are potent anticancerous agents against ERG-positive prostate cancers. Presented at the Curtis Parker Student Research Symposium, February 7-8, 2012.
4. Kayarthodi, S.; Xu, H.; Fujimura, Y.; Yang, C.; Fang, J.; Matthews, R.; Bhat, G.; **Grizzle, W.**; **Rao, V.N.**; Reddy, E.S.P. Novel therapeutic agent that targets ERG-positive prostate cancer cells. Presented at the 8th Annual National Symposium on Prostate Cancer, March 18-20, 2012, Clark Atlanta University, Atlanta GA.
5. Xu, J.; Qin, Y.; Jingyao, X.; Aysola, K.; Ayre, K.; Cantor, A.; **Grizzle, W.**; Landen, C.; Partridge, E.; Matthews, R.; Oprea, G.; Reddy, E.S.P.; **Rao, V.N.** BRCA1 RING domain is required for nuclear import and growth suppression of TNBC. Presented at the first Annual MBI Research Symposium, held on March 22-23, 2012, MSM, Atlanta, GA.
6. Kayarthodi, S.; Xu, H.; Fujimura, Y.; Yang, C.; Fang, J.; Matthews, R.; Bhat, G.; Kunchala, R.; **Grizzle, W.**; **Rao, V.N.**; Reddy, E.S.P. Identification of novel therapeutic agent that targets ERG-positive prostate cancer cells. Presented at the first CDT Conference, March 31, 2012, GSU, Atlanta, GA.
7. Xu, H.; Kayarthodi, S.; Fang , J.; Fujimura, Y.; Yang, C.; Matthews, R.; Kunchala R.; Bhat, G.; **Grizzle, W.**; **Rao, V.N.**; Reddy, E.S.P. RED 037F8 and RED 046H6 are potent anticancerous agents against erg-positive prostate cancers. 7th Annual Health Disparities Research Symposium. Birmingham, AL, April 10, 2012.
8. Qin, Y.; Xu, J.; Aysola, K.; Watkins, T.; Reddy, V.; **Cantor, A.**; **Grizzle, W.**; **Landen, C.**; Partridge, E.; Matthews, R.; Oprea, G.; Reddy, E.S.P.; **Rao, V.N.** BRCA1 RING domain is required for nuclear import and growth inhibition of triple negative breast cancer cells. 7th Annual Health Disparities Research Symposium. Birmingham, AL, April 10, 2012.
9. **Rao, V.N.**; Qin, Y.; Xu, J.; Aysola, K.; Watkins, T.; Reddy, V.; **Cantor, A.**; **Grizzle, W.**; **Landen, C.**; Partridge, E.; Matthews, R.; Okoli, J.; Oprea, G.; Reddy, E.S.P.; Novel BRCA1 function in breast cancer health disparities. Presented at the 7th Annual science of Health Disparities: From Discovery to Delivery Conference held on April 10, 2012, UAB, Birmingham.
10. Xu, H.; Kayarthodi, S.; Fang, J.; Fujimura, Y.; Yang, C.; Matthews, R.; Kunchala, R.; Bhat, G.; **Grizzle, W.**; **Rao, V.N.**; Reddy, E.S.P. Identification of novel targeted therapeutic agents for ERG-positive prostate cancers. Presented at the 7th Annual science of Health Disparities: From Discovery to Delivery Conference, held on April, 10, 2012, UAB, Birmingham.
11. **Rao, V.N.** BRCA1 Deficiency and epithelial ovarian cancers. Presented to the Partnership Advisory Council on May 30, 2012, at UAB, Birmingham.
12. Qin, Y.; Xu, J.; Aysola, K.; Oprea, G.; Reddy, A.; Matthews, R.; Okoli, J.; **Cantor, A.**; **Grizzle, W.**; Partridge, E.; Reddy, E.S.P.; Landen, C.; **Rao, V.N.** BRCA1 deficiency and epithelial ovarian cancer. Presented at the MSM/TU/UAB CCC Summer Institute held on July 25, 2012, Tuskegee University, AL.

13. **Rao, V.N.**; **Landen, C.N., Jr.** BRCA1 Deficiency and epithelial ovarian cancers. Presented at the Morehouse School of Medicine/Tuskegee University/University of Alabama Birmingham Comprehensive Cancer Center Partnership Summer Institute, Tuskegee University, Tuskegee, AL, July 25, 2012.

14. Giles, M.; Aysola, K.; Qin, Y.; Xu, J.; Koranteng, P.; Reddy, E.S.P.; **Rao, V.N.** BRCA1a disease–associated mutants are mislocalized in the cytoplasm of TNBC cells. Presented at the 1st Summer Research Experience for first year medical students, held on July 27, 2012, at Morehouse school of Medicine, Atlanta, GA.

15. Koranteng, P.; Qin, Y.; Xu, J.; Aysola, K.; Reddy, V.; **Cantor, A.**; **Grizzle, W.**; **Landen, C.**; **Partridge, E.**; Matthews, R.; Okoli, J.; Oprea, G.; **Partridge, E.**; Reddy, E.S.P.; **Rao, V.N.** BRCA1 and cancer health disparities. Presented at the 13th RCMI Biennial International symposium on Health Disparities held December, 2012, San Juan, Puerto Rico.

16. **Rao, V.N.** BRCA1 Deficiency and epithelial ovarian cancers. Presented to the Partnership Advisory Council on January 17, 2013, at UAB, Birmingham.

17. Xu, J.; Qin, Y.; Aysola K.; Oprea G.; Reddy A.; Matthews R.; Okoli J.; **Singh K.**; **Grizzle W.**; **Partridge E.**; Reddy, E.S.P.; **Landen, C.**; Rao, V.N. BRCA1 isoforms sequester Ubc9 thus regulating the growth of ovarian cancers. Presented at the 2013 Student Research Day, February 12-13, 2013 at MSM, Atlanta GA.

18. Giles, M.; Aysola, K.; Qin, Y.; Xu, J.; Koranteng, P.; Reddy, E.S.P.; **Rao, V.N.** BRCA1a disease–associated mutants are mislocalized in the cytoplasm of TNBC cells. Presented at the 2013 Student Research Day, February 12-13, 2013, at MSM, Atlanta GA.

19. Qin Y.; Xu, J.; Aysola, K.; Watkins, T; Reddy, V.; **Singh, K.**; **Grizzle, W.**; **Landen, C.**; **Partridge, E.**; Matthews, R.; Oprea, G.; Reddy, E.S.P.; **Rao, V.N.** BRCA1 RING domain is required for nuclear transport and growth inhibition of BRCA1-associated triple-negative breast cancers. Presented at the 2013 Student Research Day, February 12-13, 2013 at MSM, Atlanta GA. (won Postdoctoral student best Poster Award).

20. **Rao, V.N.** BRCA1 deficiency and epithelial ovarian cancers. Presented at the MSM/TU/UAB CCC Summer Institute held on July 24, 2013, Atlanta, GA.

21. **Rao, V.N.** BRCA1 deficiency and epithelial ovarian cancers. Presented to the Partnership Advisory Council on December 9, 2013, at Atlanta, GA.

22. Xu, J.; Qin, Y.; Aysola, K.; Oprea, G.; Giles, M.; Reddy, A.; Matthews, R.; Okoli, J.; Cantuaria, G.; **Grizzle, W.**; **Partridge, E.**; **Landen C.**; Reddy E.S.P.; **Rao, V.N.** A novel downstream target for BRCA1-associated epithelial ovarian cancers and triple negative breast cancers. Presented at the International conference on Emerging trends in Biomarker research-Prospects and challenges on September 13th and 14th, 2013 Hyderabad, India. (invited keynote presentation)

23. Xu, J.; Qin, Y.; Aysola, K.; Oprea, G.; Giles, M.; Reddy, A.; Okoli, J.; Cantuaria, G.; Singh, K.; Chen, D.; Grizzle, W.E.; Partridge, E.E.; O'Regan, R.; **Landen, C.**; Reddy, E.S.P.; **Rao, V.N.**: A novel biomarker for BRCA1-associated epithelial ovarian cancers and triple negative breast cancers. Presented at the 2014 Student Research day abstract, April, 2014 at MSM, Atlanta GA.

24. Qin, Y.; Xu, J.; Aysola, K.; Oprea, G.; Yezdani, S.; Matthews, R.; Okoli, J.; **Singh, K.**; **Grizzle, W.**; Partridge, E.; Reddy, E.S.P.; **Landen, C.**; **Rao, V.N.** BRCA1 deficiency and epithelial ovarian cancer. Presented at the Summer Institute held on July, 22-23, 2014, UAB.

25. Agyemang, S.; Xu, J.; Aysola, K.; Qin, Y.; Giles, M.; Matthews, R.; Anachebe, N.; Harris-Hooker, S.; Oprea, G.; **Singh, K.**; **Grizzle, W.**; **Partridge, E.E.**; **Landen, C.**; Reddy, E.S.P.; **Rao, V.N.** BRCA1 restores the expression of caveolin-1, a tumor suppressor in high grade SEOC. Presented at the 3rd summer research experience for first year medical students held on July, 28, 2014, at MSM, Atlanta, GA.

26. **Rao, V.N.** BRCA1 deficiency and epithelial ovarian cancers. Presented at the meeting of the Program Steering Committee on March 26, 2014, in Birmingham, AL.

27. **Rao, V.N.** BRCA1 deficiency and epithelial ovarian cancers. Presented to the Partnership Advisory Council on July 22, 2014, in Birmingham, AL.

Grant proposals:

1. **Proposal # 1:** CEHD-MSM Faculty pilot study research award, Title: A pilot study to identify surrogate biomarkers for early detection of TNBC in AA women (PI: **V.N. Rao**) Total Project Period: 2013-2014. **Not funded.**
2. **Proposal # 2:** MSM G12 MBRC Pilot Project Collaborative Application. Title: Protein landscape to identify key players involved in chemoresistance of TNBC (PI: **V.N. Rao**, Co PI: M. Powell) Total Project Period: 2013-2014. **Not funded.**
3. **Proposal # 3:** NIH R21 grant. Title: Transcriptional factors and prostate cancers. (PI: S.P. Reddy; Investigator: **V.N. Rao**). Total Project Period: 7/1/2013 - 6/30/2015. **Not funded.**
4. **Proposal # 4:** DOD Ovarian Cancer Research Program. A novel mechanism of mitochondrial dynamics in epithelial ovarian cancer (PI: **V.N. Rao**). **Not funded**.
5. **Proposal # 5:** NCI R21. Deregulated cellular trafficking and ovarian cancer (P.I.: **V.N. Rao**). Total Project Period: 07/1/2014–06/30/2016. **Scored but not funded.**
6. **Proposal # 6:** Susan G. Komen for the Cure. Developing and implementing a breast cancer disparities research program. (PIs: L. Caplan and **V.N. Rao**). Project Period: 05/1/2012– 6/30/2015. **Not funded.**
7. **Proposal # 7:** NIH SC1. Title: Novel target for tumor progression and drug resistance in ovarian cancer (P.I.: **V.N. Rao**). Project Period: 7/1/2014–10/31/18. **Not funded.**
8. **Proposal # 8:** NIH R01 grant. Title: Loss of BRCA1 function and triple negative breast cancer. (PI: **V.N. Rao**). Project Period: 7/1/2014–10/31/2019. **Not funded.**
9. **Proposal # 9:** Abramson Cancer Center Penn School of Medicine. Aberrant homeostasis in TNBC. (PI: **V.N. Rao**). Project Period: 2014-2015. **Not funded.**
10. **Proposal # 10:** GSK Discovery Fast Track application-Title: Novel BRCA1 Functional assay to develop targeted therapy for TNBC (PI: **V. N. Rao**). **Not funded**.
11. **Proposal # 11:** DOD Breast Cancer Research Program, Breakthrough award. Title: Novel mechanism of chemoresistance and recurrence in TNBC (PI: **V.N. Rao**) Total Project Period: 1/1/2015-12/31/18. **Not funded.**
12. **Proposal # 12:** UAB Breast SPORE pilot grant. Title: Novel BRCA1 functional assay to develop targeted therapy for TNBC (PI: **V.N. Rao**). **Not funded**.
13. **Proposal # 13:** U54 Pilot Project. Title: Altered metabolic switch and BRCA1-associated cancers (Lead PI: V.N. Rao, Co-PI: Y. Fu) Total Project Period: 9/1/2014– 8/31/2016. **Funded**.
14. **Proposal # 14:** DOD USAMRMC Ovarian Cancer Research Program (Pilot award). Title: Metabolic reprogramming and epithelial ovarian cancer. (PI: **V.N. Rao**). Project Period: 1/1/2015-12/31/16. **Not funded**.

Patent application:

International Patent filed, June 2012. BRCA1 function-based assays. US-2011-0027814A1.

Career development: In process

XIII. Kamel F. Khazal (TU)/Clinton Grubbs (UAB) - Chemopreventive and Therapeutic Activity of *Withania somnifera* and Its Mechanism of Action in Human Breast Cancer. (Funding period: 9/1/11-8/31/14)

Publications:

1. **Khazal, K.F.**; Samuel, T.; Hill, D.L.; **Grubbs, C.J.** Effect of an extract of *Withania somnifera* root on estrogen receptor-positive mammary carcinomas. Anticancer Res. 2013;33:1519-23. PMCID: PMC3675906. http://www.ncbi.nlm.nih.gov/pubmed/23564793

   Contributions by Dr. Khazal: Prepared extract, performed biochemical and histochemical analyses, drafted manuscript.
   Contributions by Dr. Grubbs: Supervised experiment with rats, edited manuscript.

2. **Khazal, K.F.**; Simon, L.; Hill, D.L.; **Grubbs, C.J.** Effect of Withania somnifera root extract on spontaneous estrogen receptor-negative mammary cancer in MMTV/Neu Mice. Anticancer Res. 2014;34:6327-6332. PMID: 25368231 http://www.ncbi.nlm.nih.gov/pubmed/25368231

   Contributions by Dr. Khazal: Prepared extract, performed biochemical and histochemical analyses, drafted manuscript.
   Contributions by Dr. Grubbs: Supervised experiment with mice, edited manuscript.

3. **Khazal, K.**; Hill, D.L.; **Grubbs, C.J.** *Withania somnifera* extract reduces the invasiveness of MDA-MB-231 breast cancer and inhibits cytokines associated with metastasis. J. Cancer Metastasis Treat., **In press**.

Presentations:

1. **Khazal, K.F.**; Samuel, T.; Ge, X.; Hill, D.L.; **Grubbs, C.** Effects of an extract of *Withania somnifera* on human breast cancer cells. Presented at the American Association for Pharmacology and Experimental Therapeutics, April 21-25, 2012, San Diego, CA.
2. **Khazal, K.F.** Chemopreventive and therapeutic activity of *Withania somnifera* and its mechanism of action in human breast cancer. Presented to the Partnership Advisory Council on May 30, 2012, at UAB, Birmingham.
3. **Khazal, K.F.**; **Grubbs, C.** Chemopreventive and therapeutic activity of *Withania somnifera* and is mechanism of action in human breast cancer. Presented at the Morehouse School of Medicine/Tuskegee University/University of Alabama Birmingham Comprehensive Cancer Center Partnership Summer Institute 2012, Tuskegee University, Tuskegee, AL, July 25, 2012.
4. **Khazal, K.F.**; Samuel, T.; Simon, L.; Hill, D.L.; **Grubbs, C.J.** *Withania somnifera* extract inhibits the invasiveness of MDA-MB-231 breast cancer cells in vitro and in vivo. Poster presentation at the 13th RCMI International Symposium on Health Disparities, December 2012, Puerto Rico.
5. **Khazal, K.F.** Chemopreventive and therapeutic activity of *Withania somnifera* and its mechanism of action in human breast cancer. Presented to the Partnership Advisory Council on January 17, 2013, at UAB, Birmingham.
6. **Khazal, K.** Chemopreventive and therapeutic activity of *Withania somnifera* and its mechanism of action in human breast cancer. Presented at the MSM/TU/UAB CCC Summer Institute held on July 24, 2013, Atlanta, GA.
7. **Khazal, K.F.** Chemopreventive and therapeutic activity of *Withania somnifera* and its mechanism of action in human breast cancer. Presented to the Partnership Advisory Council on December 9, 2013, at Atlanta, GA.

8. **Khazal, K.F.**; Simon, L.; Odemuyiwa, S.O.; Hill, D.; **Grubbs, C.** *Withania somnifera* extract inhibits invasion and metastasis of MDA-MB-231 cells by inhibiting CCL2 and CD44-high/CD24-low stem cells. Presented at the San Antonio Breast Cancer Symposium, December 10-14, 2013.
9. **Khazal, K.F.** Chemopreventive and therapeutic activity of *Withania somnifera* and its mechanism of action in human breast cancer. Presented at the meeting of the Program Steering Committee on March 26, 2014, in Birmingham, AL.
10. **Khazal, K.F.;** Hill, D.L.; **Grubbs, C.J.** The cancer preventive activity of an extract of *Withania somnifera* roots. [abstract]. In: Proceedings of the 105th Annual Meeting of the American Association for Cancer Research; 2014 Apr 5-9; San Diego, CA.
11. **Khazal, K.F.** Chemopreventive and therapeutic activity of *Withania somnifera* and its mechanism of action in human breast cancer. Presented to the Partnership Advisory Council on July 22, 2014, in Birmingham, AL.
12. **Khazal, K.F.;** Hill, D.L.; **Grubbs, C.J.** *Withania somnifera* extract inhibits proliferation and the ABC transporter of side-population (cd44high/cd24low) cells from MDA-MB-231 breast cancer cells. Presented at **t**he Minority Health and Health Disparities Grantees' Conference, December 1–3, 2014 in National Harbor, MD.

Proposals:

1. **Khazal, K.F. (PI); Grubbs, C.J.** Pilot application to the U54. Chemotherapeutic activity of *Withania somnifera* activity against xenografted stem cells (side population of MDA-MB-231cells) and its preventive effect on spontaneous mammary tumors in mice. **Not funded**.
2. **Khazal, K.F. (PI); Grubbs, C.J.** Pre-Pilot application to the U54. Stinging nettle (*Urtica dioica*) extract for treatment of prostate cancer. **Not funded.**

   Career development: I was awarded two grants through the U54 for a period of four years (2010-2014). During this period, I accomplished the following: (1) I have a well-established laboratory to conduct studies on the chemompreventive and chemotherapy of agents derived from medicinal plants such as *Withania somnifera*, and *Urtica dioica*. (2) Under the mentorship of Dr. Grubbs, I have been trained to conduct chemopreventive studies with murine models. (3) I published two manuscripts in a peer-reviewed journal. (4) I have prepared two grant proposals, an R15 and an SC2. (5) I have been appointed as an editorial board member for the Journal of Cancer Metastasis and Treatment. (Dr. Khazal died in July 2015.)

XIV. Temesgen Samuel (TU)/Clarence Clark (MSM)/Upender Manne (UAB) - Molecular Characterization of Aggressive Colon Cancers of African-American Patients. (Funding period: 9/1/11-8/31/14)

Publications:

1. **Samuel, T.**; Fadlalla, K.; Mosley, L.; Katkoori, V.R.; Turner, T; **Manne, U.** Dual-mode interaction between quercetin and DNA-damaging drugs in cancer cells. Anticancer Res. 2012;32:61-71. PMCID: PMC3525707 http://www.ncbi.nlm.nih.gov/pubmed/22213289

   Contributions by Dr. Samuel: Proposed the effort, initiated the study, performed the experiments, wrote the manuscript.
   Contributions by Dr. Manne: Provided suggestions for experiments, reviewed the results, and reviewed the manuscript.
2. Katkoori, V.R.; Shanmugam, C.; Jia, X.; Vitta, S.P.; Sthanam, M.; Callens, T.; Messiaen, L.; Chen, D.; Zhang, B.; **Bumpers, H.L.**; **Samuel, T.**; **Manne, U**. Prognostic significance and gene expression profiles of p53 mutations in microsatellite-stable Stage III colorectal adenocarcinomas. PLoS One, 7(1): Epub Jan 19, 2012. PMCID: PMC3261849 http://www.ncbi.nlm.nih.gov/pubmed/22276141 (Impact factor: 4.4)

Contributions by Dr. Samuel: Participated in weekly inter-laboratory conferences and discussions on the project, provided suggestions about the experiments, and reviewed the manuscript.
Contributions by Dr. Bumpers: Participated in weekly inter-laboratory conferences and discussions on the project, provided samples for analysis, provided suggestions about the experiments, and reviewed the manuscript.
Contributions by Dr. Manne: Provided suggestions for experiments, reviewed the results, and reviewed the manuscript.

3. Bovell, L.C.; Putcha, B.D.K.; **Samuel, T.**; **Manne, U**. Clinical implications of microRNAs in cancer. Biotech Histochem. 2013; 88:388-396. PMID:23647010 http://www.ncbi.nlm.nih.gov/pubmed/23647010

   Contributions by Dr. Samuel: Drafted the review.
   Contributions by Dr. Manne: Reviewed the manuscript.

4. Khazal, K.F.; **Samuel, T.;** Hill, D.L.; Grubbs, C.J. Effect of an extract of *Withania somnifera* root on estrogen receptor-positive mammary carcinomas. Anticancer Res. 2013;33:1519-23. PMCID:PMC3675906 http://www.ncbi.nlm.nih.gov/pubmed/?term=khazal+kf

   Contributions by Dr. Samuel: Made suggestions for experiments and read a draft of the manuscript.

5. Gales, D.; Clark, C.; **Manne, U.**; **Samuel, T.** The chemokine CXCL8 in carcinogenesis and drug response. ISRN Oncol 2013; 859154. PMCID:PMC3810054 http://www.ncbi.nlm.nih.gov/pubmed/24224100

   Contributions by Dr. Samuel: Participated in weekly inter-laboratory conferences and discussions on the project, provided suggestions about the experiments, and reviewed the manuscript.
   Contributions by Dr. Manne: Provided suggestions for experiments, reviewed the results, and reviewed the manuscript.

6. **Samuel, T.**; Fadlalla, K.; Gales, D.; Putcha, B.D.K.; **Manne, U.** Variable NF-kappa B pathway responses in colon cancer cells treated with chemotherapeutic drugs. BMC Cancer. 2014;14:599. PMCID: PMC4152571 http://www.ncbi.nlm.nih.gov/pubmed/25134433

   Contributions by Dr. Samuel: See above.
   Contributions by Dr. Manne: See above.

7. **Manne, U.,** Putcha, B-D.K, **Samuel, T.**, Srivastava, S. Prognostic and Predictive Biomarkers: Colorectal Cancer. *In Press*.

8. Fadlalla, K.; Elgendy, R.; Gilbreath, E.; Pondugula, S.; Yehualaeshet,T,; Mansour, M.; Serbessa, T.; **Manne, U.**; **Samuel, T.** 3-(2-Bromoethyl)-indole inhibits the growth of cancer cells and NF-κB activation. Oncol. Rep., **In press.**

Presentations:

1. Apalangya, V.; Fadlalla, K.; **Samuel, T.**; Rangari, V.; Shaik, J. Hydroxyapatite composite nanofibers for tissue engineering. 13th Annual Biomedical Research Symposium, College of Veterinary Medicine, Nursing and Allied Health, Tuskegee University, Tuskegee, AL, September 20-21, 2012, poster.

2. Benjamin, S.; Fadlalla, K.; Patterson, Z.; Yehaulashet, T.; **Samuel T.;** Anti-microbial activities of indole-3-carbinol and related compounds. 13th Annual Biomedical Research Symposium, College of Veterinary Medicine, Nursing and Allied Health, Tuskegee University, Tuskegee, AL, September 20-21, 2012, poster.

3. Chen, D.; Jadhav, T.; Kumar Putcha, B.D.; **Samuel, T.**; Posey, J.; Heslin, M.J.; **Manne, U.** Distinct gene expression profile of recurrent state II colorectal cancers in African American and Caucasian American patients. Presented at the 15th Annual Research Retreat of the UAB Comprehensive Cancer Center, Birmingham, AL, October 29, 2012.

4. Fadlalla, K.; Katkoori, V.; **Khazal, K.**; Turner, T.; **Manne, U.**; **Samuel, T.** Co-treatment of cancer cells with DNA damaging drugs and quercetin suppresses cell growth independent of p21 and Bax induction. 103rd

Annual AACR Conference, Chicago March 31-April 4, 2012. Proc Amer Assoc Cancer Res, Volume 52, 2012, Poster presentation. Abstract #4664.

5. Graham, M.; **Samuel, T**.; Cole, A.; Collay, A.; Stephen D.; Yehualaeshet, T. Development of a standardized molecular beacon real-time PCR assay for the specific detection of *Listeria monocytogenes* and *Salmonella typhimurium*. 13th Annual Biomedical Research Symposium, College of Veterinary Medicine, Nursing and Allied Health, Tuskegee University, Tuskegee, AL, September 20-21, 2012, poster
6. Infante, K. D.; Jaynes, J.; **Samuel, T**., Graham, M.; Yehualaeshet, T. *In vitro* bactericidal activities of lytic peptides against *Staphylococcus aureus* and *Staphylococcus warneri*. 13th Annual Biomedical Research Symposium, College of Veterinary Medicine, Nursing and Allied Health, Tuskegee University, Tuskegee, AL, September 20-21, 2012, poster.
7. Jadhav, T.; Chen, D.; Putcha, B.D.K.; **Samuel, T.**; Posey, J.; Heslin, M.J.; **Manne, U.** Distinct gene expression profile of recurrent Stage II colorectal cancers in African American and Caucasian American Patients (AACR, 2013; Abstract #4031).
8. Katkoori, V.R.; Choudhary, S.; Butler, A.R.; Shanmugam, C.; Bovell, L.L.; **Samuel, T.**; Athar, M.; Grizzle, W.E.; **Manne, U.** Interaction between the rabphillin-3A-like gene and phosphorylation of mammalian target of rapamycin (mTOR) in colorectal cancer. 103rd Annual AACR Conference, Chicago March 31-April 4, 2012. Proc Amer Assoc Cancer Res, Volume 52, 2012, Abstract #4156, Poster presentation.
9. Katkoori, V.R.; Shanmugam, C.; Sthanam, M.; Callens, T.; Messiaen, L.M.; Bumpers, H.L.; Birdsong, G.G; **Samuel, T.**; **Manne, U.** Clinical relevance of elevated microsatellite alterations at selected tetranucleotide repeats in colorectal adenocarcinomas. 103rd Annual AACR Conference, Chicago March 31-April 4, 2012. Proc. Amer. Assoc. Cancer Res. Volume 52, 2012, Abstract #1152, Poster presentation.
10. Mosley, L.; Fadlalla, K.; Yates, C.; Turner, T.; **Samuel, T.** Modulation of miRNA expression in prostate cancer cells by the dietary flavonoid quercetin. 8th Annual National Symposium on Prostate Cancer, Center for Cancer Research and Therapeutic Development at Clark Atlanta University, Atlanta, GA, March 18-20, 2012.
11. Mosley, L.; Fadlalla, K.; Yates, C.; Turner, T.; **Samuel, T.** Modulation of miRNA expression in prostate cancer cells by the dietary flavonoid quercetin. 69th Joint Annual Meeting of National Institute of Science (NIS) and Beta-Kappa-Xi (BKX), Nashville, Tennessee, March 21-25, 2012. 1st place winner in graduate oral presentation.
12. Mosley, L.; Fadlalla, K.; Yates, C.; Turner, T.; **Samuel. T.** Modulation of miRNA expression in prostate cancer cells by the dietary flavonoid quercetin. First Bioethics Conference on Cancer Health Disparities Research at Tuskegee University, Tuskegee, AL, January 18 - 20, 2012.
13. Patterson, Z.; Fadlalla, K.; Benjamin, S.; Yehualaeshet, T.; Turner, T.; **Manne, U.**; **Samuel, T.** The activity of indole-derivative compounds on colon cancer cells. 13th Annual Biomedical Research Symposium, College of Veterinary Medicine, Nursing and Allied Health Tuskegee University, Tuskegee, AL, September 20-21, 2012.
14. **Samuel, T.** Molecular characterization of aggressive colon cancers of African-American patients. Presented to the Partnership Advisory Council on May 30, 2012, at UAB, Birmingham.
15. **Samuel, T.**.; Patterson, Z.; Fadlalla, K.; Putcha, B.D.K.; Posey, J.; **Manne, U.** The NF-kB–CXCL8 axis as a modifier of drug response in colon cancer cells. 15th Annual UAB Comprehensive Cancer Center Research Retreat, Birmingham, AL, October 29, 2012, poster.
16. **Samuel, T.**; Bumpers, H.; **Manne, U.** Molecular characterization of aggressive colon cancers of African-American patients. Presented at the Morehouse School of Medicine/Tuskegee University/University of Alabama Birmingham Comprehensive Cancer Center Partnership Summer Institute 2012, Tuskegee University, Tuskegee, AL, July 25, 2012.

17. **Samuel, T.**; Patterson, Z.; Fadalla, K.; Kumar Putcha, B.D.; Posey, J.; **Manne, U.** The NF-kB-CXCL8 axis as a modifier of drug response in colon cancer cells. Presented at the 15th Annual Research Retreat of the UAB Comprehensive Cancer Center, Birmingham, AL, October 29, 2012.
18. Trebelhorn, C.H.; Dennis, J.C.; **Samuel, T.**; Pondugula, S.; Coleman, E.; Morrison, E.; Mahmoud, M. Stearidonic acid, an omega-3 fatty acid, inhibits human prostate cancer cell viability. National Veterinary Scholars Symposium, Denver, CO, USA, August 2-5, 2012, poster.
19. **Samuel, T.** Molecular characterization of aggressive colon cancers of African-American patients. Presented to the Partnership Advisory Council on January 17, 2013, at UAB, Birmingham.
20. **Samuel, T.** Molecular characterization of aggressive colon cancers of African-American patients. Presented at the MSM/TU/UAB CCC Summer Institute held on July 24, 2013, Atlanta, GA.
21. **Samuel**, **T.** Fadlalla, K., Elgendy, R., Putcha, B-D.K., Posey, J.; **Manne, U.** Differential activation of NF-kB signaling and CXCL8 secretion in colon cancer cells treated with chemotherapeutic drugs. Presented at the AACR-NCI-EORTC Molecular Targets and Cancer Therapeutics Conference, October 19-23, 2013, in Boston, MA.
22. Gales, D.N.; McMeans, B.; Fadalla, K.; **Manne, U.**; **Samuel, T.** Docetaxel-induced growth on cell cycle phenotypes in stromal and prostate cancer cell lines. Presented at the Annual Biomedical Research Conference for Minority Students, Nashville, TN, November 13-16, 2013.
23. **Samuel, T.** Molecular characterization of aggressive colon cancers of African-American patients. Presented to the Partnership Advisory Council on December 9, 2013, at Atlanta, GA.
24. Gales, D.N.; McMeans, B.; Fadalla, K.; **Manne, U.**; **Samuel, T.** Docetaxel induced growth on cell cycle phenotypes in stromal and prostate cancer cell lines. Presented at the Sixth AACR Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. December, 2013, in Atlanta, GA.
25. **Samuel, T.** Molecular characterization of aggressive colon cancers of African-American patients. Presented at the meeting of the Program Steering Committee on March 26, 2014, in Birmingham, AL.
26. **Samuel, T.** Molecular characterization of aggressive colon cancers of African-American patients. Presented to the Partnership Advisory Council on July 22, 2014, in Birmingham, AL.

Proposals:

1. **Samuel, T.; Manne, U.** SC3 - Quercetin as an enhancer of the efficacy of 5-FU in mouse models of colon cancer. **Funded.**
2. **Samuel, T.; Manne, U.** R21 - Regulation of the NFkB-CXCR2 axis in camptothecin therapy for colon cancer. **Submitted.**
3. **Samuel, T. (G. Francia, PI)** RTRN - Preclinical models of circulating colon cancer cells to evaluate anti-cancer therapies. **Submitted.**

XV. Clayton Yates (TU) and William Grizzle (UAB) - Kaiso as a Prognostic Factor and Potential Therapeutic Target in Breast Cancer. (Funding period: 9/1/11-8/31/14)

Publications:

1. Zhou, J.; Wang, H.; Cannon, V.; Walcott, K.M.; Song, H.; **Yates, C.** Side population rather than CD133+ cells distinguishes enriched tumorigenicity in hTERT-immortalized primary prostate cancer cells. Mol. Cancer 2011;10:112. PMCID:PMC3180433 http://www.ncbi.nlm.nih.gov/pubmed/21917149 **[Highly Accessed]**

Contributions by Dr. Yates: Conceived the idea, supervised the laboratory work, drafted the manuscript, and accomplished its revision for publication.

2. Jones, J.; Wang, H.; Zhou, J.; Hardy, S.; Turner, T.; Austin, D.; He, Q.; Wells, A.; **Grizzle WE**; **Yates, C**. Nuclear Kaiso indicates aggressive prostate cancers and promotes migration and invasiveness of prostate cancer cells. Am J Pathol. 2012; 181:1836-46. PMCID:PMC3483816 http://www.ncbi.nlm.nih.gov/pubmed/22974583

   Contributions by Dr. Yates: Developed the idea with Dr. Grizzle, supervised the work, prepared a draft of the manuscript, and assisted in revision of the manuscript.
   Contributions by Dr. Grizzle: Developed the idea with Dr. Yates, reviewed a draft of the manuscript, and assisted in revision of the manuscript.

3. Jones, J.; Wang, H.; **Grizzle, W.**; **Yates, C.** MicroRNAs that affect prostate cancer: emphasis on prostate cancer in African Americans. Review: Biotechnic Histochem. 2013;88:410-24. PMCID: PMC4119086 http://www.ncbi.nlm.nih.gov/pubmed/23901944

   Contributions by Dr. Yates: Developed the idea with Dr. Grizzle, supervised the work, prepared a draft of the manuscript, and assisted in revision of the manuscript.
   Contributions by Dr. Grizzle: Developed the idea with Dr. Yates, reviewed a draft of the manuscript, and assisted in revision of the manuscript.

4. Jones, J.; Wang, H.; Theodore, S.; Karanam, B.; Dean-Colomb, W.; Welch, D.; **Grizzle, W.**; **Yates, C.** Nuclear localization of Kaiso promotes the poorly differentiated phenotype in infiltrating ductal carcinomas. Clin Exp Metastasis. 2014;31:497-510 PMCID:PMC4065802 http://www.ncbi.nlm.nih.gov/pubmed/24570268

   Contributions by Dr. Yates: Developed the idea with Dr. Grizzle, supervised the work, prepared a draft of the manuscript, and assisted in revision of the manuscript.
   Contributions by Dr. Grizzle: Developed the idea with Dr. Yates, reviewed a draft of the manuscript, and assisted in revision of the manuscript.

5. Theodore, S.C.; Davis, M.; Zhao, F.; Wang, H.; Chen, D.; Rhim, J.; Dean-Colomb, W.; Turner, T.; Ji, W.; Zeng, G,; **Grizzle, W.**; **Yates, C.** MicroRNA profiling of novel African American and Caucasian prostate cancer cell lines reveals a reciprocal regulatory relationship of miR-152 and DNA methyltranferase 1. Oncotarget. 2014;5:3512-3525. PMCID: PMC4116499 http://www.ncbi.nlm.nih.gov/pubmed/25004396

6. Zhou, J.; Feigenbaum, L.; Yee, C.; Song, H.; **Yates, C.** Mouse prostate epithelial luminal cells lineage originate in the basal layer where the primitive stem/early progenitor cells reside: Implications for identifying prostate cancer stem cells. Biomed Res Int. 2013;2013:913179. PMID: 23819124 PMCID: PMC3683430

7. Wang, H.; Liu, W.; Black, S.; Turner, O.; Daniels, J.; He, Q.P.; Davis, M.; **Yates, C.** Kaiso, a transcriptional repressor, promotes cell migration of prostate cancer cells through regulation of miR-31 expression. Oncotarget, **In press**.

8. **Yates, C.**; Long, M.D.; Campbell, M.J.; Sucheston-Campbell, L. The role of miRNAs as epigenetic drivers in African American prostate cancer patients who have TMPRSS2-ERG-negative tumors. Frontiers in Bioscience, **In press**.

Presentations:

1. **Yates, C.** Clark Atlanta Prostate Cancer Symposium, Atlanta, GA. Presented in March, 2012.
2. **Yates, C.** Keynote Speaker CUNY-MSKK U54 Translational Medicine Symposium, New York, NY. Presented on April 19, 2012.
3. **Yates, C.** Kaiso as a prognostic factor and potential therapeutic target in breast cancer. Presented to the Partnership Advisory Council on May 30, 2012, at UAB, Birmingham.

4. **Yates, C.**; **Grizzle, W.** Kaiso as a prognostic factor and potential therapeutic target in breast cancer. Presented at the Morehouse School of Medicine/Tuskegee University/University of Alabama Birmingham Comprehensive Cancer Center Partnership Summer Institute 2012, Tuskegee University, Tuskegee, AL, July 25, 2012.
5. **Yates, C.** Kaiso as a prognostic factor and potential therapeutic target in breast cancer. Presented to the Partnership Advisory Council on January 17, 2013, at UAB, Birmingham.
6. **Yates, C.** Kaiso as a Prognostic Factor and Potential Therapeutic Target in Breast Cancer. Presented at the MSM/TU/UAB CCC Summer Institute held on July 24, 2013, Atlanta, GA.
7. **Yates, C.** Invited Speaker. Plenary Session Prostate Cancer and Tumor Microenvironment, AACR Health Disparities Conference Atlanta, GA, Dec. 6-9, 2013.
8. **Yates, C.** Kaiso as a prognostic factor and potential therapeutic target in breast cancer. Presented to the Partnership Advisory Council on December 9, 2013, at Atlanta, GA.
9. **Yates, C.** Invited Speaker, Moffitt Cancer Center, Health Disparities Seminar Series. Jan. 17, 2014.
10. **Yates, C.** Invited Speaker, FDA Toxicology Center, AR, Feb. 20, 2014.
11. **Yates, C.** Kaiso as a prognostic factor and potential therapeutic target in breast cancer. Presented at the meeting of the Program Steering Committee on March 26, 2014, in Birmingham, AL.
12. **Yates, C.** Kaiso as a prognostic factor and potential therapeutic target in breast cancer. Presented to the Partnership Advisory Council on Jul. 22, 2014, in Birmingham, AL.
13. **Yates, C.** Invited Speaker, Basic Society for Urological Research, Dallas, TX. Nov.13-16, 2014.
14. **Yates, C.** Invited Speaker, NIMHD-NIH, Directors Seminar Series. To be determined.

Proposals:

1. PI: Reams, R. (FAMU), co-PI; **Yates, C**. NIH R21, Title: Validation of ABCD3 expression in African American prostate cancer patients. 3/1/2013-2/28/15. The goal of this project is to determine ABCD3 expression in African American prostate cancer patients. The role of the Yates laboratory is to explore the regulation of ABCD3 expression in the EGFR signaling pathway. **Not funded.**
2. PI: **Yates, C.**, co-PI, **Grizzle, W.** DoD, Title: Transcriptional repressor Kaiso promotes metastasis through the epithelial to mesenchymal transition. 3/1/12-1/31/2015. **Funded.**
3. PI: Reams, R. (FAMU), Co-PI, **Yates, C.** DoD, Title: Role of ABCD3 in African American prostate cancer. 3/1/13-2/30/16. Goal of this project is to determine ABCD3 expression in African American Prostate Cancer patients. The role of the Yates laboratory is to explore the regulation of ABCD3 expression in the EGFR signaling pathway. **Not funded.**
4. PI: **Yates, C.**, co-PI, **Grizzle, W.** NIH R01, Title: Transcriptional repressor Kaiso promotes castration resistance and metastasis through EMT. 8/1/14-7/31/19. **Submitted (being revised).**
5. Co-PI: **Yates, C.** DoD PC132042 5/1/14-4/30/17. Influence of androgen deprivation and tumor microenvironment on epigenetic silencing of tumor metastasis suppressor KISS1 during prostate cancer progression. **Not funded.**
6. Co- PI: **Yates, C.** 1U01CA185356-01 8/1/14 - 7/31/18 Prognostic miRNA expression and binding networks in aggressive African American prostate cancer. **Not funded.**
7. PI: **Yates, C.** PC131214 DoD Synergist Idea Award 7/1/14 - 7/31/14. Racially related Micro-RNA binding networks are associated with aggressive prostate cancer in African Americans. **Not funded.**
8. PI: **Yates, C.** 1 R21 CA188799 9/1/14-9/30/16. Role of transcriptional repressor Kaiso in the breast cancer tumor microenvironment. **Funded.**

9. PI: **Yates, C.** DoD BC133106 7/1/14-6/30/16. Tumor microenvironment regulation of methyl binding protein Kaiso in metastatic breast cancer. **Not funded.**
10. PI: **Yates, C.**, co-PI, **Grizzle, W.** U54 pilot, Racial differences in the molecular characteristics of cervical cancer and response to treatment. **Funded.**
11. **Yates, C.** (PI) NCI 3U54CA118623-10S1. 9/2015-8/2016. Administrative Supplement. **Funded.**

Reviewer:

1. **Yates, C.** DoD (CDMRP) Prostate Cancer Cell Biology Review Panel-2 (CBY-2) 2011
2. **Yates, C.** DoD (CDMRP) Prostate Cancer Cell Biology Review Panel-1 (CBY-1) 2012
3. **Yates, C.** DoD (CDMRP) Breast Cancer Pathobiology Review Panel 2013
4. **Yates, C.** NIH- Urologic and Genitourinary Physiology and Pathology (UGPP) R01 applications 2013
5. **Yates, C.** DoD (CDMRP) Prostate Cancer Cell Biology Review Panel-1 (CBY-2) 2013

Patent:

Yates, C.; Turner, T.; Jaynes, J. Lytic peptides having anti-proliferative effect against prostate cancer cells. U.S. Patent No 8,461,118 B2 (Awarded April 2013)

Career development: In process.

XVI. Hidayah Nicole Green (UAB) and Clayton Yates (TU) - A Multi-Cancer Platform for Selective Photo-Nano-Therapy of Malignant Tumors. (Funding period: 4/1/14-3/31/15)

Publication:

1. **Green H.N.**; Crockett, S.D.; Martyshkin, D.V.; Singh, K.P.; Grizzle, W.E.; Rosenthal, E.L.; Mirov, S.B. A histological evaluation and in vivo assessment of intratumoral near infrared photothermal nanotherapy-induced tumor regression. Int. J. Nanomedicine 2014;9:5093-5102. PMID: 25395847 [PubMed - in process] http://www.ncbi.nlm.nih.gov/pubmed/25395847

Presentation:

1. **Green, H.N.** A multi-cancer platform for selective photo-nano-therapy of malignant tumors. Presented to the Partnership Advisory Council on July 22, 2014, in Birmingham, AL.

Proposals:

1. **Green, H.N.** Optimizing antibody and nanoparticle conjugation: the chemistry to improve cancer care. Marion Milligan Mason Award for Women in the Chemical Sciences. **Not funded.**
2. **Green, H.N.** A minimally invasive platform to target, image, and treat head and neck cancer. Veterans Administration. **Funded.**

XVII. Esther A. Suswam (UAB) and Amit K. Tiwari (TU)- Role of TTP-Lin28-let-7-axis in Colorectal Cancer Treatment Responses (Funding period: 4/1/14-3/31/15)

Publications:

1. Karthikeyan, C.; Lee, C.; Moore, J.; Mittal, R.; **Suswam, E.A**.; Abbott, K.L.; Pondugula, S.R.; Manne, U.; Narayanan, N.K.; Trivedi, P.; **Tiwari, A.K.** IND2, a pyrimido[1",2":1,5]pyrazolo[3,4-b]quinoline derivative,

circumvents multi-drug resistance and causes apoptosis in colon cancer cells. Bioorg Med Chem. 2014 Dec 8. pii: S0968-0896(14)00838-4.

Presentations:

1. **Suswam, E.A.** Molecular profiles of tristetraprolin and growth factors in colorectal cancers of African American and Caucasian American patients. Presented at the 9th Annual UAB Health Disparities Research Symposium, March 20, 2014, Birmingham, AL.
2. **Suswam, E.A.** Role of TTP-Lin28-let-7-axis in Colorectal Cancer Treatment Responses. Presented to the Partnership Advisory Council on July 22, 2014, in Birmingham, AL.
3. **Suswam, E.A.** Expression and subcellular localization of tristetraprolin in colorectal cancers of African American and Caucasian patients. Presented at the 10th Annual Health Disparities Research Symposium, March 17, 2015, Birmingham, AL.
4. **Suswam, E.A.**; Putcha, B.K.; Tiwari, A.K.; Jadhav, T.; Walker, K.D.; Harkins, L.; Samir A.; Eltoum, I-E.; Bae, S.; **Manne, U.** Molecular and cellular localization profiles of tristetraprolin in colorectal cancer: Implications for tumor progression in diverse patient populations. Presented at the AACR Annual Meeting in Philadelphia, PA. April 18-22, 2015. Abstract # 4953.

Proposals:

1. Suswam, E.A. R21 Tristetraprolin as a novel modulator of colorectal cancer growth and metastasis.

XVIII. Lizhong Wang (UAB) and James W. Lillard (MSM) - Association of CD24 and Progression of Prostate Cancer in African-Americans. [Funding period: 4/1/14-3/31/15 (Pre-Pilot) and 9/1/14-8/31/16, (Pilot)

Publications:

1. **Wang, L.**; Liu, R.; Ye, P.; Wong, C.; Chen, G.Y.; Zhou, P.; Sakabe, K.; Zheng, X..; Wu, W.; Zhang, P.; Jiang, T.; Bassetti, M.; Jube, S.; Sun, Y.; Zhang, Y.; Zheng, P.; Liu, Y. Intracellular CD24 disrupts ARF-NPM interaction and enables mutational and viral oncogene-mediated p53 inactivation. Nature Comm. 2015;6:5909.
2. Liu, R.; Liu, C.; Chen, D.; Yang, W.H.; Liu, X.; Liu, C.G.; Dugas, C.M.; Tang, F.; Zheng, P.; Liu, Y.; **Wang**, **L**. FOXP3 controls the microRNA-146-NF-κB negative feedback regulation loop and inhibits tumor growth through apoptosis in breast cancer cells. Cancer Res. 2015;75:1703-1713.
3. Liu, R.; Yi, B.; Wei, S.; Yang, W.H.; Har, K.M.; Chauhan, P.; Zhang, W.; Mao, X.; Liu, X.; Liu, C.G.; **Wang, L**. FOXP3-microRNA-146-NF-κB axis and therapy for precancerous lesions in prostate. Cancer Res. 2015;75:1714-1724.
4. Zhang; W.; Yi, B.; Wang, C.; Chen, D.; Bae, S.; Wei, S.; Guo, R.; Lu, C.; Nguyen, L.L.H.; Yang, W-H; **Lillard, J.W.**; Zhang, X.; Liu, R.; **Wang, L.** Silencing of CD24 enhances the PRIMA-1-induced mutant p53 restoration in prostate cancer cells. Clin. Cancer Res., **In press**.

Presentation:

1. **Wang, L.** Association of CD24 and progression of prostate cancer in African-Americans. Presented to the Partnership Advisory Council on July 22, 2014, in Birmingham, AL.

Proposals:

1. **Wang, L. (PI)** NIH/NCI R21CA179282. MicroRNAs for monitoring tumor progression and predicting response to therapy. Dates: 07/01/14 – 06/30/16. **Funded.**

2. **Wang, L. (PI)** DOD PCRP Idea Award (PC130594). Synergistic action of FOXP3 and TSC1 pathways during tumor progression. Dates: 10/01/14 – 09/31/17. **Funded.**

3. **Wang, L. (MPI)** R21CA199586 Roles of semaphorin signaling in breast cancer racial disparities. 07/15/2015-06/30/2017. **Funded.**

XIX. Rajesh Singh (MSM) and Santosh K. Katiyar (UAB) - Novel Nanoformulation for Prostate Cancer Treatment (Funding period: 4/1/14-3/31/15)

Publications:

1. Mir, H.; Kapur, N.; **Singh, R.**; Sonpavde, G.; Lillard, J.W.; Singh, S. Andrographolide inhibits prostate cancer by targeting cell cycle regulators, CXCR3 and CXCR7 chemokine receptors. Cell Cycle. 2016; **In Press**.

2. **Singh, R.;** Kapur, N.; Mir, H.; Singh, N.; Lillard, J.W.; Singh, S. CXCR6-CXCL16 axis promotes prostate cancer by mediating cytoskeleton rearrangement via activating Ezrin and αvβ3 integrin clustering. Oncotarget. 2016; Jan 19

Presentations:

1. **Singh, R.** Novel nanoformulation for prostate cancer treatment. Presented to the Partnership Advisory Council on July 22, 2014, in Birmingham, AL.

2. Carriere, P.P.; Mir, H.; Kapur, N.; **Singh, R.**; Sonpavde, G.; Lillard, J.W. Jr.; Singh, S. CCR9/CCL25 mediates epithelial-mesenchymal transition in prostate cancer. American Association for Cancer Research: 105th Annual Meeting. April 18-22, 2015, Philadelphia, PA.

3. Mir, H.; Kapur, N.; **Singh, R.**; Sonpavde, G.; Lillard, J.W. Jr. Andrographolide inhibits prostate cancer by modulating chemokine and cytokines. American Association for Cancer Research: 105th Annual Meeting. April 18-22, 2015, Philadelphia, PA.

4. **Singh, R.**; Singh, S.; Sonpavde, G.; Lillard, J.W., Jr. Combination drug delivery using PBM nanoparticle to improve prostate cancer therapy. American Association for Cancer Research: 105th Annual Meeting. April 18-22, 2015, Philadelphia, PA.

Proposals:

1. **Singh, R. (PI)** G12 MD007602 Pilot Project, Improving prostate cancer therapy using novel PBM nanoparticle, January 2015-December 2015. **Funded.**

2. **Singh, R. (PI)** SC1 SC1CA193758. 09/2014-08/2018. Targeted nanotherapy for prostate cancer. **Funded.**

XIV. Reuben Gonzalez-Perez (MSM) and Christopher Klug (UAB) – Role of leptin-Notch axis in pancreatic cancer (Funding period: 9/1/14-8/31/16)

Publication:

1. Lipsey, C.C.; Harbuzariu, A.; Daley-Brown, D.; **Gonzalez-Perez, R.R.** Oncogenic role of leptin and Notch interleukin-1 leptin crosstalk outcome in cancer. World J. Method., In press.

Presentations:

1. Harbuzariu, A.; Garrison, R.C.; Daley-Brown, D.S.; Beech, D.J.; Cason, F.D.; Harmon, T.L.; Yang, L.; **Gonzalez-Perez, R.R.** Identification of a novel adjuvant therapeutic agent for obesity related pancreatic cancer. American Association for Cancer Research: 105th Annual Meeting. April 18-22, 2015, Philadelphia, PA.

2. Lanier, V.; Jeffers, M.; Walterberger, J.; Anderson, L.; **Gonzalez, R.** Leptin Notch VEGFR-2 axis influences cancer stromal cell behavior. American Association for Cancer Research: 105th Annual Meeting. April 18-22, 2015, Philadelphia, PA.

3. Harmon, T.L.; Harbuzariu, A.; Yang, L.; **Gonzalez-Perez, R.R.** Iron oxide nanoparticle-leptin receptor antagonist: A novel targeted adjuvant therapy for triple negative breast cancer. American Association for Cancer Research: 105th Annual Meeting. April 18-22, 2015, Philadelphia, PA.

4. Dill, C.D.; Harbuzariu, A.: Harmon, T.L.; Lipsey, C.C., Loye, A.; **Gonzalez-Perez, R.** The efficacy and Toxicity of PEG-LPrA2: A novel adjuvant for triple negative breast cancer treatment. Presented at the Summer Institute of the MSM/TU/UAB CCC Partnership, July 22, 2015.

5. Harbuzariu, A.; Garrison, R.C.; Beech, D.J.; Cason, F.D.; Harmon, T.L.; Yang, L.; Gonzalez-Perez, R.R. Novel adjuvant therapy for obesity related pancreatic cancer. Presented at the Summer Institute of the MSM/TU/UAB CCC Partnership, July 22, 2015.

6. Lipsey, C.C.; Gonzalez-Perez, R.R. New inhibitors of leptin signaling. Presented at the Summer Institute of the MSM/TU/UAB CCC Partnership, July 22, 2015.

Proposals:

1. **Gonzalez-Perez, R. (PI)** R41 CA183399-01A1. Novel adjuvant therapy for triple negative breast cancer. February 2015 – January 2016. **Funded.**

XV. Veena N. Rao (MSM) and Yuchang Fu (UAB) – Altered Metabolic Switch and BRCA1-Associated Cancers (Funding period: 9/1/14-8/31/16)

Publications:

1. Desai, A.; Xu, J.; Aysola, K.; Akinbobuyi, O.; White, M.; Reddy, V.; Okoli, J.; Clark, C.; **Partridge**, **E. E;** Childs, E.; Beech, D.J; Rice, V.M.; Reddy, E.S.P.; **Rao V.N**. Molecular mechanism linking BRCA1 dysfunction to HGSEOC with peritoneal permeability and ascites. J. Gynecol. Res. 2015;1:1-7.

Presentations:

1. Xu, J.; Aysola, K.; Oprea, G.; Reddy, V.; Okoli, J.; **Singh, K.**; Beech, D.J.; **Moellering, D.**; Reddy, E.S.P.; **Fu, Y.; Rao, V.N.** Altered metabolic switch and BRCA1 associated cancers" presented at the PAC meeting held on Jan 15-16, 2015, Kellogg Conference Center, Tuskegee University, Alabama.

2. Xu, J.; Agyemang, S.; Aysola, K.; Desai, A.; Akinbobuyi, O.; White, M.; Oprea, G.; Okoli, J.; Clark, C.; **Fu, Y.; Moellering, D.; Singh, K.**; Beech, D.; Reddy, E.S.P.; **Rao, V.N.** Molecular mechanism linking BRCAness to HGSEOC with increasing peritoneal permeability and ascites. Presented at the Curtis Parker student research day on February 11, 2015, NCPC Bldg, Morehouse School of Medicine, Atlanta, Georgia.

XX. Amit K. Tiwari (TU) and Keshav Singh (UAB) - Targeting Mitochondrial Dynamics for TNBC Therapy (Funding period: 9/1/14-8/31/16) converted to:

Mohamed Abdalla (TU) and Keshav Singh (UAB) – Dual Targeting Nanoscale Drug Delivery Systems for Treatment of Metastatic Prostate Cancer (Funding period: 9/1/14-8/31/16)

Publication:

1. Narayanan, N.K.; Kunimasa, K.; Yamori.,Y.; Mori, M.; Mori, H.; Nakamura, K.; Miller, G.; **Manne, U.**; **Tiwari, A.K.**; Narayanan, B. Antitumor activity of melinjo (*Gnetum gnemon* L.) seed extract in human and murine tumor models in vitro and in a colon-26 tumor-bearing mouse model in vivo. Cancer Med. 2015 Sep 26. doi: 10.1002/cam4.520. [Epub ahead of print] PMID:26408414

Grant proposal:

1. **Singh, K.K.** I01 VA 01/2014- 12/2017 Mechanisms of arsenic-induced carcinogenesis.

XXI. Clayton Yates (TU) and William Grizzle (UAB) –Racial differences in exosome signaling promote tumor aggressiveness in African American breast cancers (Funding period: 9/1/14-8/31/16)

Presentations:

1. Dean-Colomb, W.M.; **Yates, C.**; Gatalica, Z.; Reddy, S.; O'Shaughnessy, J.; Millis, S.Z. Molecular profiling identifies genetic heterogeneity in synchronous and asynchronous breast cancers. American Society for Clinical Oncology (ASCO). May 29-June 2, 2015. Chicago IL.
2. **Yates, C.**; Millis, S.Z.; Gluck, W.L.; Gatalica, Z.; Reddy, S.; O'Shaughnessy, J.; Dean-Colomb, W.M. Variations in measured ER, PR, and HER2 status in synchronous and asynchronous paired breast cancer (BC) tumors. American Society for Clinical Oncology (ASCO). May 29-June 2, 2015. Chicago IL.
3. Mothershed, E.; Tripathi, S.; Karanam, B.; **Yates, C.** Epidermal growth factor influences expression and localization of kaiso in breast carcinomas. Presented at the Summer Institute of the MSM/TU/UAB CCC Partnership, July 22, 2015.

XXII. Roland Matthews (MSM) and Chandrika Piyathilake (UAB) - Racial Differences in the Molecular Characteristics of Cervical Cancer (Funding period: 9/1/14-8/31/16)

Presentation:

1. Badiga, S., Bell, W., Azuero, A., Chambers, M.M., Suswam, E., **Matthews, R.**, **Piyathilake, C.** The racial differences in survival outcome differ by the histological subtype of cervical cancer. Selected for oral presentation at 10th Annual UAB Health Disparities Research Symposium March 17-18, 2015.