

Bilal Bin Hafeez, Ph.D.

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Education & Training

Ph.D in Toxicology, Hamdard University, Delhi, India
M.Sc in Toxicology, Hamdard University, Delhi, India
Postdoc in Immunopharmacology & Therapeutics, Roswell Park Cancer Institute
Postdoc in Cancer Biology, Cancer Chemoprevention/Biomarker Research, University of Wisconsin-Madison

Research Focus

Dr. Hafeez's laboratory research focuses are **1)** to establish new molecular targets/biomarkers for solid tumors which can be used for rationale design for the prevention and treatment of prostate and pancreatic cancers, **2)** to develop new approaches to improve the immunotherapy for solid tumors using orthotopic syngeneic xenograft and genetic engineered mouse models of cancers, **3)** Targeting ribosome biogenesis and tumor microenvironment for the treatment of pancreatic cancer, and **4)** to understand the molecular mechanisms of Enzalutamide therapy failure and developing new prognostic biomarkers for metastatic castration resistant prostate cancer (mCRPC). Dr. Hafeez has research background in immunopharmacology, cancer therapeutics and cancer biology. He previously established protein kinase C epsilon (PKC ϵ) as a novel molecular target for prostate cancer development and metastasis using genetic and pharmacological approaches. His pre-clinical research against prostate cancer lead to the use of plumbagin (a novel and selective inhibitor of PKC epsilon) in phase I clinical trials against metastatic castration resistant prostate cancer. Dr. Hafeez's laboratory at the University of Texas Rio Grande Valley TX is diversifying his research program to develop new transgenic and knockout mouse models of solid tumors using Cre-Lox technology. His research group is

working to genetically define the role of upstream binding factor (UBF) in prostate, pancreatic and skin carcinogenesis and its influence on tumor immunity.

Publications

Dr. Hafeez has made significant contributions to cancer biology and molecular therapeutic research, as evident by his **54** peer-reviewed published manuscripts. Selected representative publications are listed below.

1. ***Massey AE**, Sikander M, Chauhan N, Kumari S, Setua S, Shetty AB, Mandil H, Kashyap VK, Khan S, Jaggi M, Yallapu MM, ***Hafeez BB**, Chauhan SC. Next-generation Paclitaxel-nanoparticle formulation for pancreatic cancer treatment. *Nanomedicine*. 2019 Jun 4;20:102027. ***Equally Contributed**
2. Khan S, Setua S, Kumari S, Dan N, Massey A, Hafeez BB, Yallapu MM, Stiles ZE, Alabkaa A, Yue J, Ganju A, Behrman S, Jaggi M, Chauhan SC. Superparamagnetic iron oxide nanoparticles of curcumin enhance gemcitabine therapeutic response in pancreatic cancer. *Biomaterials*. 2019 Jul;208:83-97
3. Kashyap VK, Wang Q, Setua S, Nagesh PKB, Chauhan N, Kumari S, Chaudhury P, Miller DD, Yallapu MM, Li W, Jaggi M, ***Hafeez BB**, Chauhan SC. Therapeutic efficacy of a novel β III/ β IV-tubulin inhibitor (VERU-111) in pancreatic cancer. *Journal of Experimental & Clinical Cancer Research* 2019 38:29. ***Co-corresponding author**
4. Ganju A, Chauhan SC, **Hafeez BB**, Doxtater K, Tripathi MK, Zafar N, Yallapu MM, Kumar R, Jaggi M. Protein kinase D1 regulates subcellular localization and metastatic function of metastasis-associated protein 1. *Br J Cancer*. 2018 Feb 20; 118(4):587-599.
5. **Hafeez BB**, Ganju A, Sikander M, Kashyap VK, Chauhan, N, Malik S, Massey AE, Tripathi MK, Halaweish FT, Zafar N, Singh MM, Yallapu MY, Chauhan SC, Jaggi M. Ormeloxifene suppresses prostate tumor growth and metastatic phenotypes *via* inhibition of oncogenic β -catenin signaling and EMT progression. *Molecular Cancer Therapeutics* 2017. 2017 Oct; 16(10):2267-2280.
6. **Hafeez BB**, Meske L, Singh A, Singh A, Zhong W, Powers P, John M, Griep AE, Verma AK. Tissue-specific conditional PKC ϵ knockout mice: a model to precisely reveal PKC ϵ functional role in initiation, promotion and progression of cancer. *Oncotarget*. 2016 May 31;7(22):33069-80.
7. ***Hafeez BB**, Fischer JW, Singh A, Zhong W, Mustafa A, Meske L, Sheikhan MO, Verma AK. Plumbagin Inhibits Prostate Carcinogenesis in Intact and Castrated PTEN Knockout Mice via Targeting PKC ϵ , Stat3, and Epithelial-to-Mesenchymal Transition Markers. *Cancer Prev Res (Phila)*. 2015 May;8(5):375-86. **(*Corresponding author)**.
8. Singh A, Bauer S, Singh A, Sand J M, **Hafeez BB**, Meske L, and Verma AK. Topically applied Hsp90 inhibitor 17AAG inhibits ultraviolet radiation-induced cutaneous wrinkles and squamous cell carcinomas. *Journal of Investigative Dermatology*, 2014 Oct 22
9. ***Hafeez BB**, Mustafa A, Fischer JW, Singh A, Zhong W, Sheikhan MO, Meske L, Havighurst T, Kim K, Verma AK. α -Mangostin, a dietary anti-oxidant inhibits the growth of pancreatic cancer cells xenograft tumors in athymic nude mice. *Anti-oxidant and Redox signaling* 2013 Aug 10;21(5):682-99. PMID:24295217 **(*Corresponding author)**.

10. ***Hafeez BB**, Fischer J, Jamal S, Mustafa A, Verma AK. Plumbagin inhibits prostate cancer development in TRAMP mice via targeting PKC ϵ , Stat3 and neuroendocrine markers. **Carcinogenesis** 2012, 33(12):2586-92. (***Corresponding author**).
11. ***Hafeez BB**, Jamal S, Fischer J, Mustafa A, Verma AK. Plumbagin, a plant based naphthoquinone inhibits the growth of pancreatic cancer cells in vitro and in vivo via targeting EGFR, Stat3 and NF- κ B signaling networks. **International Journal of Cancer** 2012, 131(9):2175-86. (***Corresponding author**).
12. **Hafeez BB**, Zhong, W, Weichert J, Dreckschmidt NE, Jamal MS, Verma AK. Genetic ablation of PKC epsilon inhibits prostate cancer development and metastasis in transgenic mouse model of prostate adenocarcinoma. **Cancer Research** 2011. 71(6);2318-27.
13. Asim M, **Hafeez BB**, Siddiqui IA, Gerlach C, Patz M, Mukhtar H, Baniahmad A. LCoR acts as a novel androgen receptor corepressor, inhibits prostate cancer growth and its functionality inactivated by the Src kinase. **Journal of Biological Chemistry** 2011, 6 (43):37108-17.
14. **Hafeez BB**, Adhami VM, Asim M, Imtiaz IA, Saleem M, Kumar MR Bhat, Din M Sataluri VS, Mukhtar H. Targeted knockdown of Notch1 inhibits invasion of human prostate cancer cell concomitant with inhibition of matrix metalloproteinase-9 and urokinase plasminogen activator. **Clinical Cancer Research** 2009, 15(2);452-9.
15. **Hafeez BB**, Imtiaz IA, Asim M, Malik A, Afaq F, Adhami VM, Saleem M, Mukhtar H. Delphinidin, a major anthocyanidin present in pigmented fruits and vegetables inhibits the prostate cancer cells xenograft in athymic nude mice. **Cancer Research** 2008, 15; 68 (20):8564-72.
16. Asim M, Siddiqui IA, **Hafeez BB**, Baniahmad A, Mukhtar H. Src Kinase potentiates androgen receptor transactivation function and invasion of androgen-independent prostate cancer C4-2 cells. **Oncogene** 2008, 27(25):3596-604. 27(14):2055-63. PMID: 18223692

Additional publications can be found by using the links below.

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