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Education

- 1997 Ph.D. Reproductive Endocrinology** Central Drug Research Institute, Lucknow India.
1990 M.S. Zoology H.N.B. Garhwal University, Srinagar, Garhwal.
1987 B.S. Botany, Chemistry, Zoology H.N.B. Garhwal University, Srinagar, Garhwal.

Research Focus

Primary research interest of Dr. Chauhan's lab is to identify and characterize the diagnostic and therapeutic targets for cancer. This research is aimed for the identification and characterization of biomarkers that aberrantly express or localize in cancer cells to develop newer tools for early disease diagnosis. We are utilizing genomics and proteomics approach for identification of novel early diagnostic markers. Recently we have identified a novel trans-membrane mucin MUC13 which is highly over-expressed ovarian and pancreatic and colon cancers. This may be potential biomarker for early cancer diagnosis as well as a good target for antibody guided targeted therapy. Nonspecific distribution and suboptimal delivery of the anti-cancer drug(s) to the tumor cells are the major hindrances in the successful use of traditional chemotherapy. Dr. Chauhan's lab is developing novel targeted therapeutic modalities for the treatment and diagnosis of cancers. Cancer tissues overexpress certain cancer associated antigens, and antibodies against these antigens will potentially recognize cancer cells. These antibodies can be used to deliver the *radionuclides and nanoparticles-encapsulated drugs* specifically to the tumors. My research group includes an outstanding team of basic scientists, physician scientists, clinicians and biostatisticians. Our teamwork has resulted in publication of high impact research articles and significant extramural funding (5 NIH RO1, 2 DOD and 1 Private Foundation, 1 Industry grants). Research work from our lab has been presented at National and International symposiums/conferences. I have been actively involved in the peer review process of manuscripts for numerous journals, NIH study sections, multiple external funding agencies, training of junior faculties and graduate students.

Recent Publications:

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;102027. doi: 10.1016/j.nano.2019.102027. PMID: 31170509.
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. doi:10.1016/j.biomaterials.2019.04.005. Epub 2019 Apr 8. PubMed PMID: 30999154.
3. Sikander M, Malik S, Chauhan N, Khan P, Kumari S, Kashyap VK, Khan S, Ganju A, Halaweish FT, Yallapu MM, Jaggi M, **Chauhan SC***. Cucurbitacin D Reprograms Glucose Metabolic Network in Prostate Cancer. *Cancers (Basel)*. 2019 Mar 14;11(3). pii:E364. doi: 10.3390/cancers11030364. PubMed PMID: 30875788; PubMed Central PMCID: PMC6469021.
4. Romero LO, Massey AE, Mata-Daboin AD, Sierra-Valdez FJ, **Chauhan SC**, Cordero-Morales JF, Vásquez V. Dietary fatty acids fine-tune Piezo1 mechanical response. *Nature Communication*. 2019 Mar 13;10(1):1200. doi: 10.1038/s41467-019-09055-7. PubMed PMID: 30867417; PubMed Central PMCID: PMC6416271.
5. Chowdhury P, Nagesh PKB, Hatami E, Wagh S, Dan N, Tripathi MK, Khan S, Hafeez BB, Meibohm B, **Chauhan SC**, Jaggi M, Yallapu MM. Tannic acid-inspired paclitaxel nanoparticles for enhanced anticancer effects in breast cancer cells. *J Colloid Interface Sci*. 2019 Feb 1;535:133-148. doi: 10.1016/j.jcis.2018.09.072. Epub 2018 Sep 22. PubMed PMID: 30292104.
6. Tripathi MK, Zacheaus C, Doxtater K, Keramatnia F, Gao C, Yallapu MM, Jaggi M, **Chauhan SC***. Z Probe, An Efficient Tool for Characterizing Long Non-Coding RNA in FFPE Tissues. *Noncoding RNA*. 2018 Sep 5;4(3). pii: E20. doi:10.3390/ncrna4030020. PubMed PMID: 30189670; PubMed Central PMCID: PMC6162476.
7. Nagesh PKB, Chowdhury P, Hatami E, Boya VKN, Kashyap VK, Khan S, Hafeez BB, **Chauhan SC**, Jaggi M, Yallapu MM. miRNA-205 Nanoformulation Sensitizes Prostate Cancer Cells to Chemotherapy. *Cancers (Basel)*. 2018 Aug 25;10(9). pii: E289. doi: 10.3390/cancers10090289. PubMed PMID: 30149628; PubMed Central PMCID: PMC6162422.
8. Stiles ZE, Khan S, Patton KT, Jaggi M, Behrman SW, **Chauhan SC***. Transmembrane mucin MUC13 distinguishes intraductal papillary mucinous neoplasms from non-mucinous cysts and is associated with high-risk lesions. *HPB (Oxford)*. 2018 Aug 13. pii: S1365-182X(18)32694-7. doi: 10.1016/j.hpb.2018.07.009. [Epub ahead of print] PubMed PMID: 30115565.
9. Chowdhury P, Nagesh PKB, Khan S, Hafeez BB, **Chauhan SC**, Jaggi M, Yallapu MM. Development of polyvinylpyrrolidone/paclitaxel self-assemblies for breast cancer. *Acta Pharm Sin B*. 2018 Jul;8(4):602-614. doi: 10.1016/j.apsb.2017.10.004. Epub 2017 Dec 10. PubMed PMID: 30109184; PubMed Central PMCID: PMC6090082.
10. Hatami E, Nagesh PKB, Chowdhury P, **Chauhan SC**, Jaggi M, Samarasinghe AE, Yallapu MM. Tannic Acid-Lung Fluid Assemblies Promote Interaction and Delivery of Drugs to Lung Cancer Cells. *Pharmaceutics*. 2018 Aug 1;10(3). pii: E111. doi: 10.3390/pharmaceutics10030111. PubMed PMID: 30071698; PubMed Central PMCID: PMC6161105.
11. Almadadi HM, Nagesh PKB, Sahay P, Bhandari S, Eckstein EC, Jaggi M, **Chauhan SC**, Yallapu MM, Pradhan P. Optical study of chemotherapy efficiency in cancer treatment via intracellular structural

- disorder analysis using partial wave spectroscopy. *J Biophotonics*. 2018 Dec;11(12):e201800056. doi: 10.1002/jbio.201800056. Epub 2018 Sep 26. PubMed PMID: 29869394.
12. Tripathi MK, Doxtater K, Keramatnia F, Zacheaus C, Yallapu MM, Jaggi M, **Chauhan SC***. Role of lncRNAs in ovarian cancer: defining new biomarkers for therapeutic purposes. *Drug Discov Today*. 2018 Apr 23. pii: S1359-6446(18)30071-0. doi: 10.1016/j.drudis.2018.04.010. [Epub ahead of print] Review. PubMed PMID: 29698834.
 13. Dan N, Setua S, Kashyap VK, Khan S, Jaggi M, Yallapu MM, **Chauhan SC***. Antibody-Drug Conjugates for Cancer Therapy: Chemistry to Clinical Implications. *Pharmaceuticals (Basel)*. 2018 Apr 9;11(2). pii: E32. doi: 10.3390/ph11020032. Review. PubMed PMID: 29642542.
 14. Nagesh PKB, Hatami E, Chowdhury P, Kashyap VK, Khan S, Hafeez BB, **Chauhan SC**, Jaggi M, Yallapu MM. Tannic Acid Induces Endoplasmic Reticulum Stress-Mediated Apoptosis in Prostate Cancer. *Cancers (Basel)*. 2018 Mar 7;10(3). pii: E68. doi: 10.3390/cancers10030068. PubMed PMID: 29518944; PubMed Central PMCID: PMC5876643.
 15. Awasthee N, Rai V, Chava S, Nallasamy P, Kunnumakkara AB, Bishayee A, **Chauhan SC**, Challagundla KB, Gupta SC. Targeting IκappaB kinases for cancer therapy. *Semin Cancer Biol*. 2018 Feb 24. pii: S1044-579X(17)30046-9. doi: 10.1016/j.semcancer.2018.02.007. [Epub ahead of print] Review. PubMed PMID: 29486318.
 16. Kumari S, Khan S, Gupta SC, Kashyap VK, Yallapu MM, **Chauhan SC**, Jaggi M. MUC13 contributes to rewiring of glucose metabolism in pancreatic cancer. *Oncogenesis*. 2018 Feb 22;7(2):19. doi: 10.1038/s41389-018-0031-0. PubMed PMID: 29467405; PubMed Central PMCID: PMC5833644.
 17. Ganju A, **Chauhan SC**, Hafeez BB, Doxtater K, Tripathi MK, Zafar N, Yallapu MM, Kumar R, Jaggi M. Protein kinase D1 regulates subcellular localisation and metastatic function of metastasis-associated protein 1. *Br J Cancer*. 2018 Feb 20;118(4):587-599. doi: 10.1038/bjc.2017.431. Epub 2018 Feb 20. PubMed PMID: 29465084; PubMed Central PMCID: PMC5830591.
 18. Khan S, Zafar N, Khan SS, Setua S, Behrman SW, Stiles ZE, Yallapu MM, Sahay P, Ghimire H, Ise T, Nagata S, Wang L, Wan JY, Pradhan P, Jaggi M, **Chauhan SC***. Clinical significance of MUC13 in pancreatic ductal adenocarcinoma. *HPB (Oxford)*. 2018 Jan 15. pii: S1365-182X(17)31184-X. doi: 10.1016/j.hpb.2017.12.003. [Epub ahead of print] PubMed PMID: 29352660.