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PROFILE

Result-oriented and highly motivated cancer biologist with demonstrated research expertise and extensive knowledge in cancer research, toxicology, molecular biology, diagnostics as well as experiment designing and data analysis. Authored 25 research articles and 1 patent with 300+ scientific global citations; invited by Editors-in-Chief to serve as guest editor and scientific reviewer for international peer-reviewed journals.

Core strengths are:

- Expertise in initiating, planning, managing research projects and writing grants
- Proficient in cancer research and diagnostics, biomarker discovery, translational research and statistical data analysis
- Mentoring/supervising graduate and undergraduate research students
- Intellectual curiosity and excellent communication skills

POSITION AND EMPLOYMENT

Research Scientist	2020
Post-Doctoral Associate	2017-2020
Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, USA.	

Research project: Chemopreventive effects of Aspirin in Melanoma

Chronic inflammation has long been linked to carcinogenesis, and anti-inflammatory drugs (such as NSAIDs) are believed to play important role in cancer treatment and prevention. We investigated the effect of aspirin on melanoma protection and its molecular mechanism. We have shown that aspirin treatment inhibits melanoma cell motility, colony formation, and pigmentation through suppression of PGE₂ and activation of AMPK and oral aspirin gavage inhibits the growth of patients derived melanoma tumor xenografts (melanoma PDX) *in vivo*. We have shown that oral gavage of daily aspirin can suppress UVB-induced cutaneous inflammation and also protect against UVB-induced DNA damage in mouse skin as well as inhibits UVB-induced melanoma progression in NRAS-melanoma mouse model and squamous cell carcinoma (SCC)-prone mouse models.

Post-Doctoral Fellow	2012-2017
School of Pharmacy and Pharmaceutical Sciences, University of Colorado Anschutz, Aurora, CO, USA.	

Research projects: Chemopreventive effects of natural compounds in various cancer model:

Bitter melon extract in pancreatic cancer using PDX model: Currently, of all the available treatment modalities for pancreatic cancer, gemcitabine is the standard of care frontline drug with a moderate success rate. Bitter melon (*Momordica charantia*), a dietary agent, is actively being examined for its anti-cancer efficacy. We employed bitter melon juice (BMJ) and gemcitabine to examine their anticancer potential alone and in combination in pancreatic cancer patient derived xenograft (PDX) explants in nude mice and the gemcitabine resistance after BMJ administration.

Silibinin in colorectal cancer: Silibinin is a non-toxic, chemopreventive agent and has been demonstrated inhibitory effect on the self-renewal capacity and differentiation potential of the cancer stem cell (CSC) population of CRC cell lines. We assessed oral silibinin effect on CSC self-renewal in serial transplantation studies using CSC enriched fractions and the unsorted population of tumor cells implantation for tumor growth. We observed that silibinin feeding has an inhibitory effect on tumorigenic potential of colon CSC along with a decrease in latency as well as size/volume of tumor.

Grape seed extract in colorectal cancer: Chemopreventive effects of grape seed extract (GSE) for its potential to impair pro-tumorigenic signaling of adipocytes on CRC/CSCs under obese conditions. We observed that GSE, with both anti-obesogenic and anti-CRC activities, could be ideal to impair different facets of adipocyte-CRC interaction resulting in CRC chemoprevention under obese conditions.

Nitrogen mustard-induced skin toxicity in SKH-1 mice:

Vesicating chemical agents like sulfur mustard are alkylating warfare agents that primarily target skin, eyes and respiratory systems causing adverse toxic effects. However, specific mechanism/s of mustard-induced skin toxicities are not well understood. We have investigated the mechanism (mainly inflammation, oxidative stress, DNA damage and apoptosis related pathways) involved in chemical induced skin injury/inflammation and along with the development of effective antidotes against them.

Senior Project Fellow	2010-2012
Senior Research Fellow	2007-2010
Junior Research Fellow	2005-2007
CSIR-Institute of Genomics and Integrative Biology, Delhi, INDIA.	

Research project: Photolinker-mediated conjugation of macromolecules

Oligonucleotide-based biochip: We used a hetero-bifunctional photolinker, 1-fluoro-2-nitro-4-azidobenzene (FNAB) for functionalization of inert polymer material and immobilization of different biomolecules for diagnostic applications. We exploited the photolinker-activated polymer matrix for fabrication of DNA oligonucleotides and developed oligo-based biochips which can discriminate single-base mismatch target from the complementary target in subsequent hybridization processes.

Novel immunoassay: In a novel approach, I have developed unique and rapid method for covalent attachment of proteins onto photo-chemically functionalized polymer matrix by employing pressure energy instead of thermal incubation. The method of protein immobilization by pressure is exploited to immobilize antigen to develop ELISA based assay. By this novel approach, the timing of the ELISA procedure is reduced to one hour by manipulating intensity and duration of applied pressure.

Protein bioconjugate: We prepared a photoreactive bioconjugate by conjugating the photolinker FNAB with bovine serum albumin. This photoreactive-BSA has photoreactive azide group which was used for simultaneous binding of an enzyme with the polymer matrix. We developed a simple and rapid method for photochemical functionalization of polyethylene glycol for PEGylation of protein.

EDUCATION

Ph.D. Biochemistry: CSIR-Institute of Genomics and Integrative Biology, Delhi and Jamia Hamdard University, New Delhi, INDIA.

M.Sc. Biotechnology: School of Biotechnology, Jawaharlal Nehru University, New Delhi, INDIA.

B.Sc. Chemistry, Botany and Zoology: Gorakhpur University, Gorakhpur, INDIA.

TECHNICAL EXPERTISE

Biochemical and molecular biology techniques:

- Spectroscopy techniques including UV-visible spectroscopy, fluorescence spectroscopy, CD spectroscopy, and density gradient ultracentrifugation, various chromatography techniques.
- Isolation and purification of protein, titration and denaturation kinetics of proteins, enzyme kinetics and enzyme-based assays procedures.
- Cloning and gene expression in bacterial cultures, transformation, isolation of DNA/RNA/protein, PCR, western blotting, DNA dot blot, Co-immunoprecipitation, gel shift assays (EMSAs), gel electrophoresis etc.
- Direct and indirect immunoassays and other ELISA-based immunoassays.
- Membrane-based antibody/protein array using plasma, cell or tissue lysate.
- Activation/functionalization of different polymer materials for covalent attachment of biomolecules such as DNA and protein to the matrix.
- Modification of biomaterials, bio-conjugation, and polymer-protein conjugate

Cell culture techniques:

- Growth and maintenance of variety of mammalian immortalized cells including various cancer cell lines, primary and stem cells.
- Growth, maintenance and differentiation of primary cells such as preadipocyte and mesenchymal stem cells (MSCs) in to mature adipocytes.
- Cell culture-based techniques routinely used with immortalized or cancer cell lines.
- MTT assay, cell viability, cell cycle and apoptosis, invasion, migration, colony formation, wounding healing assays, sphere formation assays for stem cell characterization, 3-D cell culture and no contact co-culture.
- Transfection in cell lines, cell culture-based reporter assay, siRNA-based cell culture experiments for gene silencing.
- Cell culture-based assay for detection of mitochondrial mass and superoxide production using MitoTracker® Dyes.
- Mitochondrial respiration using XF24 Flux Analyzer (Seahorse Extracellular Flux Analyzer), an assay of metabolic function of the cells.
- Immunofluorescence (ICC), flow cytometry and confocal microscopy etc.
- Magnetic cell isolation and cell separation (MACS® Technology).
- LI-COR: Odyssey® Imagers for IR-dye based western blot detection.

Animal handling and *in-vivo* techniques:

- Mice handling, Breeding and maintenance of transgenic colony.
- Drug toxicity studies in mice.
- Oral drug administration, IP, IM and SC injections, Non-sterile surgery.
- Cancer cells xenograft implantation in mice for tumor growth and anticancer efficacy of therapeutic/chemopreventive compounds.
- Patient-derived tumor xenografts (PDX model) implantation in mice for tumor growth and anticancer efficacy of therapeutic/chemopreventive compounds.
- Genetically engineered inducible mouse model for tumor development.
- Immunohistochemistry and Histopathology with different tissue sections.

Computer and statistical software:

- Windows, MacOS, MS Office, and statistical tools such as R, GraphPad Prism, and SigmaStat for data analysis.

ACADEMIC ACHIEVEMENTS AND PROFESSIONAL MEMBERSHIPS

- Travel award from Huntsman Cancer Institute to present poster at the Society of Investigative Dermatology Conference, Orlando, 2018.
- NIH CounterACT Travel Award to attend 7th CounterACT Research Symposium, 2013.
- International Travel Award from DST, CSIR, and DBT, India to attend "IRT2010-XIX International Round Table on Nucleosides, Nucleotides and Nucleic Acids" Lyon, France, 2010.
- Senior Research Fellowship (SRF) from UGC-CSIR, India.
- Joint CSIR-UGC National Eligibility Test-Junior Research Fellowship (NET-JRF) for the award of scholarship/Lectureship in Life Sciences (June 2004 and December 2004).
- DBT-Merit Scholarship (M.Sc. Biotech at Jawaharlal Nehru University, New Delhi) from DBT, Govt of India.
- Post-Doctoral Member, Society of Toxicology, USA.
- Life Member, Indian Science Congress Association, India.

PUBLICATIONS

1. Dhar D, Raina K, **Kumar D**, Wempe MF, Bagby SM, Pitts TM, Orlicky DJ, Agarwal C, Messersmith WA, Agarwal R. Bitter melon juice intake with gemcitabine intervention circumvents resistance to gemcitabine in pancreatic patient-derived xenograft tumors. **Mol Carcinog.** 2020 Oct;59(10):1227-1240. doi: 10.1002/mc.23251. Epub 2020 Aug 20. PMID: 32816368.
2. Rahman H*, **Kumar D***, Liu T, Okwundu N, Lum D, Florell SR, Burd CE, Boucher KM, VanBrocklin MW, Grossman D. Aspirin protects melanocytes and keratinocytes against UVB-induced DNA damage in vivo. **J Invest Dermatol.** 2020 Jun 19:S0022-202X(20)31684-5. doi: 10.1016/j.jid.2020.06.003. PMID: 32569596. **[*Equal first author]**
3. Varedi A, Rahman H, **Kumar D**, Catrow JL, Cox JE, Liu T, Florell SR, Boucher KM, Okwundu N, Burnett WJ, VanBrocklin MW, Grossman D. ASA Suppresses PGE₂ in Plasma and Melanocytic Nevi of Human Subjects at Increased Risk for Melanoma. **Pharmaceuticals (Basel).** 2020 Jan 2;13(1):7. doi: 10.3390/ph13010007. PMID: 31906519. **[Selected for journal's special issue of collection "Choices of the Journal".]**
4. Goswami DG, Kant R, Ammar DA, **Kumar D**, Enzenauer RW, Petrash JM, Tewari-Singh N, Agarwal R. Acute corneal injury in rabbits following nitrogen mustard ocular exposure. **Exp Mol Pathol.** 2019 Jun 21;110:104275. doi: 10.1016/j.yexmp.2019.104275.
5. Nayak PS, Pradhan S, Arakha M, **Kumar D**, Saleem M, Mallick B, Jha S. Silver nanoparticles fabricated using medicinal plant extracts show enhanced antimicrobial and selective cytotoxic propensities. **IET Nanobiotechnol.** 2019 Apr;13(2):193-201. doi: 10.1049/iet-nbt.2018.5025.
6. **Kumar D**, Rahman H, Tyagi E, Liu T, Li C, Lu R, Lum D, Holmen SL, Maschek JA, Cox JE, VanBrocklin MW, Grossman D. Aspirin Suppresses PGE₂ and Activates AMP Kinase to Inhibit Melanoma Cell Motility, Pigmentation, and Selective Tumor Growth *In Vivo*. **Cancer Prev Res (Phila).** 2018 Oct;11(10):629-642. **[Featured on Journal Cover Page]**
7. da Silva RF, Dhar D, Raina K, **Kumar D**, Kant R, Cagnon VHA, Agarwal C, Agarwal R. Nintedanib inhibits growth of human prostate carcinoma cells by modulating both cell cycle and angiogenesis regulators. **Sci Rep.** 2018 Jun 22;8(1):9540. doi: 10.1038/s41598-018-27831-1.
8. da Silva RF, Nogueira-Pangrazi E, Kido LA, Montico F, Arana S, **Kumar D**, Raina K, Agarwal R, Cagnon VHA. Nintedanib antiangiogenic inhibitor effectiveness in delaying adenocarcinoma progression in Transgenic Adenocarcinoma of the Mouse Prostate (TRAMP). **J Biomed Sci.** 2017 May 12;24(1):31. doi: 10.1186/s12929-017-0334-z.

9. Tewari-Singh N, Goswami DG, Kant R, Ammar DA, **Kumar D**, Enzenauer RW, Casillas RP, Croutch CR, Petrash JM, Agarwal R. Histopathological and Molecular Changes in the Rabbit Cornea From Arsenical Vesicant Lewisite Exposure. **Toxicol Sci.** **2017** Dec 1;160(2):420-428. doi: 10.1093/toxsci/kfx198.
10. Raina K, **Kumar D**, Agarwal R. Promise of bitter melon (*Momordica charantia*) bioactives in cancer prevention and therapy. **Semin Cancer Biol.** **2016** Oct;40-41:116-129.
11. Kumar S*, **Kumar D***, Ahirwar R*, Nahar P. Exploring the flexible chemistry of 4-fluoro-3-nitrophenyl azide for biomolecule immobilization and bioconjugation. **Anal Bioanal Chem.** **2016** Oct;408(25):6945-56. **[*Equal first author]**
12. Goswami DG, Tewari-Singh N, Dhar D, **Kumar D**, Agarwal C, Ammar DA, Kant R, Enzenauer RW, Petrash JM, Agarwal R. Nitrogen Mustard-Induced Corneal Injury Involves DNA Damage and Pathways Related to Inflammation, Epithelial-Stromal Separation, and Neovascularization. **Cornea.** **2016** Feb;35(2):257-66.
13. **Kumar D**, Tewari-Singh N, Agarwal C, Jain AK, Inturi S, Kant R, White CW, Agarwal R. Nitrogen mustard exposure of murine skin induces DNA damage, oxidative stress and activation of MAPK/Akt-AP1 pathway leading to induction of inflammatory and proteolytic mediators. **Toxicol Lett.** **2015** Jun 15;235(3):161-71.
14. Jain AK, Tewari-Singh N, Inturi S, **Kumar D**, Orlicky DJ, Agarwal C, White CW, Agarwal R. Flavanone silibinin treatment attenuates nitrogen mustard-induced toxic effects in mouse skin. **Toxicol Appl Pharmacol.** **2015** May 15;285(1):71-8.
15. Goswami DG*, **Kumar D***, Tewari-Singh N, Orlicky DJ, Jain AK, Kant R, Rancourt RC, Dhar D, Inturi S, Agarwal C, White CW, Agarwal R. Topical nitrogen mustard exposure causes systemic toxic effects in mice. **Exp Toxicol Pathol.** **2015** Feb;67(2):161-70. **[*Equal first author]**
16. Kumar S*, **Kumar D***, Raina K, Agarwal R, Agarwal C. Functional modification of adipocytes by grape seed extract impairs their pro-tumorigenic signaling on colon cancer stem cells and the daughter cancer cells. **Oncotarget.** **2014** Oct 30;5(20):10151-69. **[*Equal first author]**
17. Raina K, Tyagi A, **Kumar D**, Agarwal R, Agarwal C. Role of oxidative stress in cytotoxicity of grape seed extract in human bladder cancer cells. **Food Chem Toxicol.** **2013** Nov;61:187-95.
18. **Kannoujia DK**, Kumar S, Nahar P. Covalent immobilization of ascorbate oxidase onto polycarbonate strip for L-ascorbic acid detection. **J Biosci Bioeng.** **2012** Oct;114(4):402-4.
19. Nahar P, Bora U, Sharma GL, **Kannoujia DK**. Microwave-mediated enzyme-linked immunosorbent assay procedure. **Anal Biochem.** **2012** Feb 15;421(2):764-6.
20. Sharma P, **Kannoujia DK**, Basir SF, Nahar P. Rapid immobilization of enzymes onto solid supports by ultrasound waves. **Artif Cells Blood Substit Immobil Biotechnol.** **2011** Oct;39(5):289-92.
21. Bora U, **Kannoujia DK**, Kumar S, Sharma P, Nahar P. Photochemical activation of polyethylene glycol and its application in PEGylation of protein. **Process Biochem.** **2011**; 46:1380-1383.
22. **Kannoujia DK**, Ali S, Nahar P. Single-step covalent immobilization of oligonucleotides onto solid surface. **Anal Methods** **2010**; 2:212-216.
23. **Kannoujia DK**, Ali S, Nahar P. Pressure-induced covalent immobilization of enzymes onto solid surface. **Biochem Eng J.** **2009**; 48:136-140.
24. Kumar S, **Kannoujia DK**, Naqvi A, Nahar P. A novel proteinaceous photolinker for simultaneous binding to an inert surface and a biomolecule. **Biochem Eng J.** **2009**; 47:132-135.
25. **Kannoujia DK**, Nahar P. Pressure: a novel tool for enzyme-linked immunosorbent assay procedure. **Biotechniques.** **2009** May;46(6):468-72.

PATENT

1. Pradip Nahar and **Dileep Kumar**. A Novel Pressure Induced Immunoassay Procedure. IN1677/DEL/2008.

MANUSCRIPT IN PREPARATION

1. **Kumar D**, Gumpricht E, Hussain A, Ramteke A, Deep G. A novel herbal beverage 'Cleanse for Life' possesses strong antioxidant properties and protects against cytotoxicity-induced by environmental toxin PCB 153. **Under Review.**
2. Parker KD, Maurya AK, Ibrahim H, Rao S, Hove PR, **Kumar D**, Kant R, Raina B, Agarwal R, Kuhn KA, Raina K, Ryan EP. Fecal transfaunation with dietary rice bran-modified human gut microbial consortia confer protection against colon carcinogenesis. **Under Review.**

SELECTED ABSTRACTS/CONFERENCE PRESENTATIONS

1. Abstract 113: Aspirin protects melanocytes and keratinocytes from UV-induced DNA damage in vivo. H. Rahman, **D. Kumar**, S. Florell, N. Okwundu, C. E. Burd, D. Grossman. Journal of Investigative Dermatology, Volume 140, Issue 7, Supplement, July 2020, Page S13.
2. Abstract 2123: A combinatorial approach using gemcitabine and bitter melon juice overcomes drug resistance impacting gemcitabine uptake and metabolism. Dhar D, **Kumar D**, Raina K, Orlicky DJ, Agarwal C and Agarwal R. Cancer Res., July 1 2019 79 (13 Supplement) 2123-2123.
3. Abstract 1206: Aspirin inhibits melanoma cell motility through suppression of PGE2 and activation of AMPK. **D. Kumar**, H. Rahman, D. Grossman. Journal of Investigative Dermatology, Vol. 138, Issue 5, S205. May 2018.
4. Abstract 1265: Protective efficacy of gut microbiome and microbial metabolites after rice bran consumption against colon tumorigenesis. Maurya AK, Kumar S, Kant R, **Kumar D**, Raina B, Yadav A, Ryan EP and Raina K. Cancer Res., July 1 2018 78 (13 Supplement) 1265-1265.
5. Abstract 277: Gaining insights into pancreatic cancer intervention with bitter melon, a natural agent, in combination with gemcitabine using patient derived xenografts. Dhar D, **Kumar D**, Bagby S, Pitts TM, Messersmith WA, Raina K and Agarwal R. Cancer Res., July 1 2018 78 (13 Supplement) 277-277.
6. Abstract 272: Effect of inositol hexaphosphate on cancer stem cell pool of prostate tumors. Raina K, Jain AK, **Kumar D**, Mohan V, Maroni P and Agarwal R. Cancer Res., July 1 2018 78 (13 Supplement) 272-272.
7. Abstract A03: Procyanidin B2 3,3"-di-O-gallate from grape seed causes metabolic alterations in prostate cancer cells: 1H-, 13C- and 31P-NMRS-based metabolomics study. Raina K, **Kumar D**, Agarwal R and Agarwal C.
8. Abstract 2807: Oral silibinin inhibits tumorigenic potential of colon cancer stem cells. Kumar S, **Kumar D**, Raina K, Serkova NJ, Agarwal C and Agarwal R. Cancer Res., August 2 2015 75 (15 Supplement) 2807-2807.
9. Abstract 4116: Grape seed extract impairs adipocyte-colorectal cancer cell interaction and decreases adipocyte-driven colon cancer stem colonosphere formation. Kumar S, **Kumar D**, Raina K, Agarwal R and Agarwal C. Cancer Res., September 30 2014 74 (19 Supplement) 4116-4116.
10. **Kumar D**, Tewari-Singh N, Goswami DG et al. Effect of Lower and Higher Exposure Duration on Lewisite-Induced Corneal Injury. 55th Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, USA.
11. Jain AK, **Kumar D**, Tewari-Singh N, Kant R, Goswami DG, et al. Comparative Effects of Silibinin and AEOL 10150 in Reversing Skin Injury from Topical Nitrogen Mustard Exposure. 55th Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, USA.
12. Tewari-Singh N, Goswami DG, Kant R, **Kumar D**, Ammar DA, et al. Corneal Injury Following Ocular Exposure to Sulfur Mustard Vapor: Clinical, Histopathological and Molecular Endpoints. 55th Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, USA.
13. Goswami DG, Tewari-Singh N, Kant R, Agarwal C, **Kumar D**, et al. Efficacy of Dexamethasone, Doxycycline and Silibinin in Reversing Nitrogen Mustard-Induced Corneal Injury. 55th Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, USA.
14. Tewari-Singh N, **Kumar D**, Jain AK, Kant R, Goswami DG, et al. Efficacy of Topical Silibinin Formulation in Murine Model of Sulfur Mustard-induced Skin Injury. 10th Annual CounterACT Network Research Symposium, June 15-17, 2016, University of California Davis, California, USA.

15. Tewari-Singh N, Goswami DG, Kant R, **Kumar D**, Ammar DA, et al. In Vivo Corneal Injury Models with Lewisite and Sulfur Mustard for the Evaluation of Effective Treatments Against Vesicant-Induced Ocular Injury. 10th Annual CounterACT Network Research Symposium, June 15-17, 2016, University of California Davis, California, USA.
16. Jain AK, **Kumar D**, Tewari-Singh N, Kant R, Goswami DG, et al. Comparative Effects of Silibinin and AEOL 10150 in Reversing Skin Toxicity from Topical Nitrogen Mustard Exposure. 9th Annual CounterACT Network Research Symposium, June 15-17, 2015, The New York Academy of Sciences, New York, USA.
17. Goswami DG, Tewari-Singh N, Kant R, **Kumar D**, Agarwal C, et al. Reversal of nitrogen mustard-induced corneal injury by dexamethasone or doxycycline treatment. 9th Annual CounterACT Network Research Symposium, June 15-17, 2015, The New York Academy of Sciences, New York, USA.
18. **Kumar D**, Tewari-Singh N, Jain AK et al. Potential Therapeutic Targets of Silibinin in Attenuating Nitrogen Mustard-Induced Skin Injury. 54th Society of Toxicology Annual Meeting, March 22-26, 2015, San Diego, California, USA.
19. Jain AK, Tewari-Singh N, **Kumar D**, Kant R, Goswami DG, et al. Mechanisms Related to Efficacy of AEOL 10150 in Reversing Skin Toxicity from Topical Nitrogen Mustard Exposure. 54th Society of Toxicology Annual Meeting, March 22-26, 2015, San Diego, California, USA.
20. Tewari-Singh N, **Kumar D**, Kant R, Goswami DG, Jain AK, et al. Silibinin Treatment Reverses Nitrogen Mustard-Induced Skin Toxicity and Associated Molecular Markers. 8th Annual CounterACT Network Research Symposium, June 17-19, 2014, Denver, Colorado, USA.
21. Jain AK, Tewari-Singh N, **Kumar D**, Kant R, Goswami DG, et al. Mechanisms Related to Efficacy of AEOL 10150 in Reversing Skin Toxicity from Topical Nitrogen Mustard Exposure. 8th Annual CounterACT Network Research Symposium, June 17-19, 2014, Denver, Colorado, USA.
22. Goswami DG, Tewari-Singh N, Dhar D, **Kumar D**, Agarwal C, et al. Nitrogen Mustard-Induced Corneal Injury Involves DNA Damage and Induction of Pathways Related to Inflammation, Vesication, and Neovascularization. 8th Annual CounterACT Network Research Symposium, June 17-19, 2014, Denver, Colorado, USA.
23. Tewari-Singh N, Goswami DG, Dhar D, **Kumar D**, Agarwal C, et al. Nitrogen mustard induces DNA damage and activates signaling cascades that lead to inflammation, epithelial-stromal separation, cell death and neovascularization in corneal tissue. ARVO Annual Meeting 2014, May 4-8, 2014, Orlando, Florida, USA.
24. Agarwal R, **Kumar D**, Goswami D, Tewari-Singh N, Inturi S, et al. Topical nitrogen mustard exposure causes systemic toxic effects in mice. 53rd Society of Toxicology Annual Meeting, March 24-27, 2014, Phoenix, Arizona, USA.
25. Tewari-Singh N, Jain AK, Inturi S, **Kumar D**, Orlicky DJ, et al. Flavanone silibinin as potential therapeutic against skin injuries by vesicating agents. 53rd Society of Toxicology Annual Meeting, March 24-27, 2014, Phoenix, Arizona, USA.
26. Goswami D, Tewari-Singh N, Dhar D, **Kumar D**, Agarwal C, et al. Nitrogen mustard-induced corneal injury involves DNA damage and induction of pathways related to inflammation, vesication and neovascularization. 53rd Society of Toxicology Annual Meeting, March 24-27, 2014, Phoenix, Arizona, USA.
27. **Kumar D**, Tewari-Singh N, Inturi S et al. Mechanisms of Vesicating Agent Nitrogen Mustard-Induced Skin Injury in SKH-1 Hairless Mice. 7th Annual CounterACT Network Research Symposium, June 25-27, 2013, NIH, Bethesda, MD, USA.
28. Tewari-Singh N, Jain AK, **Kumar D**, Goswami D, Dhar D, et al. Efficacy of Flavonoid Silibinin and Catalytic Antioxidant AEOL 10150 for Treatment of Nitrogen Mustard-Induced Skin Injuries. 7th Annual CounterACT Network Research Symposium, June 25-27, 2013, NIH, Bethesda, MD, USA.
29. Tewari-Singh N, Dhar D, Ammar DA, **Kumar D**, Agarwal C, et al. Biomarkers of Ocular Injuries Following Nitrogen Mustard Exposure. 7th Annual CounterACT Network Research Symposium, June 25-27, 2013, NIH, Bethesda, MD, USA.

30. **Kumar D**, Tewari-Singh N, Inturi S et al. Mechanisms of Vesicating Agent Nitrogen Mustard-Induced Skin Injury in SKH-1 Hairless Mice. 52nd Society of Toxicology Annual Meeting, March 10-14, 2013, San Antonio, Texas, USA.
31. **Kannoujia DK**, Parween S, Nahar S et al. "APTAMER" - Emerging Molecule for Cancer Diagnostics. Cancer Biology 2011: Basic Theoretical Aspect, August 26-27, 2011, IIT Guwahati, India.
32. Nahar S, **Kannoujia DK**, Parween S, Nahar P. Telomerase: The end of Cancer? Cancer Biology 2011: Basic Theoretical Aspect, August 26-27, 2011, IIT Guwahati, India.
33. **Kannoujia DK**, Nahar P. A Novel and Rapid Enzyme-Linked Immunosorbent Assay Procedure by Applying Mild Pressure. 98th Indian Science Congress, January 3-7, 2011, Chennai, India.
34. **Kannoujia DK**, Nahar P. One-step Covalent Immobilization of Amine-modified Oligonucleotides onto Photoactivated Surface. "IRT-2010" – XIX International Round Table on Nucleosides, Nucleotides and Nucleic Acids, August 29-September 3, 2010, Lyon, France.
35. Kumar S, Ghosh L, Kumar S, **Kannoujia DK**, Ghosh B, Nahar P. A rapid method for detection of cell adhesion molecules (CAMs) on human umbilical vein endothelial cells (HUVECs). 94th Indian Science Congress, January 3-7, 2007, Chennai, India.