

## Dhruv Kumar, Ph.D.

PhD (Italy), PDF (USA)

### Professor

School of Health Sciences and Technology  
UPES, Dehradun, Uttarakhand

Email:

Mob:

Nationality:

**Top 2% most cited scientists (STANFORD/SCOPUS) worldwide in  
Oncology and Cancer Research**

Currently holding position of Professor and Cluster Head at the School of Health Sciences and Technology, UPES, Dehradun, I oversee three Departments encompassing Biotechnology, Biomedical Engineering, Food Technology. With over fifteen years of research and teaching experience in Health and Biomedical Sciences, added by five years of administrative leadership as a Coordinator, Director, and Cluster Head, my contributions have been acknowledged globally. Being recognized among the top 2% of most cited (SCOPUS) and influential scientists worldwide in Oncology and Cancer Research, I have made substantial scholarly contributions, publishing numerous impactful research articles, book chapters, and authoring/ editing five books. My mentoring extends to guiding seven PhD students and establishing specialized laboratories focusing on Computational Biology, Bioinformatics and Translational Cancer Research, emphasizing cell culture and molecular biology. Our laboratory's core research focuses on altered metabolic states within various cancers like Head and Neck, Breast, Prostate, and Pancreatic cancer. Specifically, our efforts center on understanding the molecular regulation of Autophagy and Apoptosis in Cancer Stem Cells (CSCs) in Prostate, Pancreatic, Oral, Brain and Breast cancer. Furthermore, our investigations encompass intra-tumor mutational heterogeneity in solid tumors, the intersection between autophagy and metabolism in solid tumors, the role of exosomes in cancer therapy, cancer genomics for personalized therapeutic approaches, drug repurposing, next-generation sequencing, and bioinformatics.

<b>Teaching and Research Experience</b>	<b>~15 years</b>
<b>Postdoctoral Experience (USA)</b>	<b>~5 years</b>
<b>National/International Awards</b>	<b>10</b>
<b>Patent (Filed)</b>	<b>03</b>
<b>PhD completed</b>	<b>07</b>
<b>WoS ResearcherID</b>	<b>C-1090-2011</b>
<b>Scopus Author ID</b>	<b>57211099780</b>
<b>ORCID ID</b>	<b>0000-0003-2586-9397</b>

### Google Scholar:

[https://scholar.google.co.in/citations?hl=en&user=afOWPrgAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.co.in/citations?hl=en&user=afOWPrgAAAAJ&view_op=list_works&sortby=pubdate)

<b>Citations</b>	<b>5049</b>
<b>h-index</b>	<b>34</b>
<b>i10-index</b>	<b>65</b>

## Employment

- 06/22-Present: Professor & Cluster Head**, School of Health Sciences and Technology, UPES, Dehradun, Uttarakhand, India
- 01/21-06/22: Professor & Asst. Director**, Amity Institute of Molecular Medicine and Stem Cell Research (AIMMSCR), Amity University Uttar Pradesh, Noida (UP), India
- 07/19-12/20: Associate Professor**, Amity Institute of Molecular Medicine and Stem Cell Research (AIMMSCR), Amity University Uttar Pradesh, Noida (UP), India

- 04/17-07/19: **Assistant Professor**, Amity Institute of Molecular Medicine and Stem Cell Research (AIMMSCR), **Amity University Uttar Pradesh**, Noida (UP), India
- 08/16-04/17: **Assistant Professor**, Department of Bioinformatics, **SRM University**, Delhi-NCR, Sonapat, Haryana, India
- 03/12-06/16: **Postdoctoral Fellow**, School of Medicine, **University of Kansas Medical Center**, Kansas City, Kansas, USA

### **Academic Qualifications**

- 01/09-03/12: **Ph.D.** in Cellular, Molecular and Industrial Biology, **University of Bologna, Bologna, Italy**  
 Thesis title: *Atomic force microscopy studies of the amyloidogenic processes of intrinsically unstructured proteins related to neurodegenerative disease*  
 Thesis advisor: **Prof. Bruno Samori, PhD**, Coordinator of NanoBioScience lab, Department of Biochemistry, University of Bologna, Italy
- 07/06-08/08: **Master of Science (M.Sc.)** in Bioinformatics with distinction. **University of Allahabad, Prayagraj, India**  
 Thesis title: *In silico analysis of interaction between HIV-1 proteases and derivatives of cyclic urea inhibitor, and its ADME toxicity properties*
- 07/03-06/06: **Bachelor of Science (B.Sc.)** in Chemistry (Hons.), **Banaras Hindu University (BHU), India**

### **Awards/Fellowships**

- 2008: **Indo-Italian Government Scholarship** (Ministry of Human Resource and Development, India)
- 2009: **Brains in Competition Award**, Institute of Advance Studies, University of Bologna, Italy
- 2011: **8th EBSA European Biophysics Congress Bursaries Award**, European Biophysical Societies Association, Italy
- 2011: **Young Scientist Award**, International Academy of Physical Science, Allahabad, India
- 2015: **K-INBRE Postdoctoral Award**, National Institute of General Medical Sciences, National Institute of Health (NIH), USA
- 2016: **Postdoc of the Month Award**, PostDoc Journal: Journal of Postdoctoral Research, USA
- 2016: **Scholar-in-Training Award**, AACR, The Function of Tumor Microenvironment in Cancer Progression Conference, San Diego, USA
- 2017: **Early Career Research Award**, SERB, DST-India
- 2019: **Senior Scientist Award**, Society of Biomedical Laboratory Scientists, India
- 2020: **Research Excellence Award**, Institute of Scholars, India
- 2024: **Research Excellence Award**, UPES, Dehradun, India
- 2024: **GUS (Global University System) Fellow**, London, UK

### **Research Interest**

Translational Cancer Research, Cancer Stem Cell, Cancer Cell Metabolism, Tumor Microenvironment, Tumor Heterogeneity, Autophagy, Exosomes, Genome Editing, NGS Data analysis and Bioinformatics

### **Research Grant**

1. **2025-2026**: "Investigating the Therapeutic Potential (Anti-cancer, Immune Booster) of Hydrogenated Water on Human Cells and Animal Models", **KENT-RO supported project, Rs 15 lakh (PI): Ongoing**
2. **2025-2027**: "Investigation of steroidal Glycosides in *Dioscorea Bulbifera* as Anticancer Agents via Targeting Metabolic Homeostasis of Cancer Cells", **UCOST, Government of Uttarakhand, Rs 5 lakh (Co-PI): Ongoing**
3. **2022-2025**: "Analysis of the relationship between gallbladder cancer, arsenic intake, and living-environmental factors - a case in Bihar, India", **Indo-Japan, Government of Japan, Rs 100 lakh (Co-PI): Ongoing**
4. **2021-2024**: "Repurposing of drugs and validation of lead compounds against main protease and RNA

- dependent RNA polymerase of SARS-CoV-2", **BRICS-DST, Rs 74 lakh (PI & Coordinator): Completed**
5. **2020-2023: "Assessment of Female reproductive health and child health risks in Arsenic Exposed population of Bihar", ICMR New Delhi, Rs ~ 1 Crore. (Co-PI): Completed**
  6. **2018-2021: "Understanding the Metabolic Cross-Talk between Head and Neck Squamous Cell Carcinoma and Tumor Associated Fibroblasts", SERB-Department of Science and Technology, Government of India, Rs ~35 Lakhs. (PI): Completed**
  7. **2015-2016: "Role of Tumor-Associated Fibroblasts in Head and Neck Cancer Metabolism" National Institute of General Medical Sciences, National Institute of Health, USA (P20GM103418), \$25,000. (PI): Completed**

## **Patent**

2022

**TEMP/E1/6123/2022-DEL:** A method for isolation of cancer associated fibroblast cells from HPV negative oral tumor

2021

**TEMP/E-1/34848/2021-DEL:** A device for oral cancer early detection

2020

**TEMP/E1/20244/2020-DEL:** Anti-viral herbal inhaler having nano-gold based herbal formulation

## **Academic/Administrative responsibility**

- 06/22-Present:** Cluster Head, School of Health Sciences and Technology, UPES, Dehradun, Uttarakhand, India
- 01/23-present:** Chairperson, Institutional Biosafety Committee (IBSC), UPES, Dehradun
- 01/23-Present:** Member Secretary, Institutional Ethical Committee (IEC), UPES, Dehradun
- 07/22-Present:** Coordinator, Nobel Talk Lecture Series, UPES, Dehradun
- 04/2017-06/2022:** Program Coordinator: Diploma in Clinical Embryology (DCE) & Diploma in Clinical Assisted Reproductive Technology (DCR) for Clinicians (Gynaecologist, IVF experts), AUUP, Noida
- 04/2017-04/2022:** Course Coordinator: Basic Bioinformatics (BIOF202), Cancer Pharmacogenomics (SCCB704), Computational Tools in Drug Discovery (MMBS702), Topics in Bioinformatics (MMBS610), AUUP, Noida
- 01/2019-04/2022:** Coordinator: Cancer Biology Cluster, Amity University (All campuses), AUUP, Noida
- 04/2017-12/2020:** Ethical Committee: Organizing member at University level, AUUP, Noida
- 04/2017-04/2022:** Placement Co-ordinator: Institute level, AUUP, Noida
- 04/2017-04/2022:** Annual Sports (Sangathan) Co-ordinator: Institute level, AUUP, Noida
- 04/2017-04/2022:** Coordinator of Special Guidance Team: Boys Hostel-7, AUUP, Noida
- 04/2017-04/2022:** Coordinator of Discipline Committee: University level, AUUP, Noida
- 04/2017-04/2022:** Anti-narcotic committee member: Institute level, AUUP, Noida
- 04/2017-02/2018:** Lab establishment: Translational cancer research lab, AUUP, Noida
- 04/2017-06/2018:** Course Designed: Diploma in Clinical Embryology (DCE) & Diploma in Clinical Assisted Reproductive Technology (DCR), B.Sc. Biochemistry (Hons.), AUUP, Noida
- 04/2017-04/2022:** Member (Institute level): Area Advisory Board (AAB), Board of Studies (BOS), Departmental Research Committee (DRC) Entrepreneurship coordinator (Institute level), AUUP, Noida

## **Teaching experience (B.Sc., M.Sc. and Ph.D. Courses)**

### **Undergraduate Level (B.Sc.)**

- Basic Bioinformatics (BIOF202)
- Basics of Cancer (BIOT223)
- Cell (MMBS104)

- Metals in Biology (MMBS201)
- Metabolism (MMBS205)

#### Postgraduate Level (M.Sc.)

- Animal Cell Culture & Cell Engineering (SCCB601)
- Assisted Reproductive Laboratory Procedures (RTCE605)
- Cancer Pharmacogenomics (SCCB704)
- Computational Tools in Drug Discovery (MMBS702)
- Genome Engineering & Editing (SCCB603)
- OMICS in Biomedical Sciences (SCCB710)
- Preventive Oncology & Psycho-Oncology (SCCB705)
- Reproductive & Developmental Biology and Genetics (RTCE604)
- Topics in Bioinformatics (MMBS510)
- Trends in Molecular Oncology (SCCB901)
- Stem Cell Bio II (SCCB 707)

#### PhD Level

- Advances in Molecular Medicine (BIOT 955) at Institute Level
- Trends in Molecular Oncology (BIOT 953) at Institute Level
- Research and Publication Ethics" (RPE) –(PHD901) at University Level

## Publications

### 2025

1. Fatima S, Kumar V, **Kumar D.** Molecular mechanism of genetic, epigenetic, and metabolic alteration in lung cancer. *Med Oncol.* 2025 Feb 2;42(3):61.
2. Swati K, Arfin S, Agrawal K, Jha SK, Rajendran RL, Prakash A, **Kumar D,** Gangadaran P, Ahn BC. Deciphering FOXM1 regulation: implications for stemness and metabolic adaptations in glioblastoma. *Med Oncol.* 2025 Mar 3;42(4):88.
3. Kumar, A., Agarwal, R., Kumar, K...**Kumar, D.** et al. Mercury poisoning in women and infants inhabiting the Gangetic plains of Bihar: risk assessment. *BMC Public Health* 25, 1275 (2025).
4. Charak S, Srivastava CM, **Kumar D,** Mittal L, Asthana S, Mehrotra R, Shandilya M. Beyond DNA interactions: Insights into idarubicin's binding dynamics with tRNA using spectroscopic and computational approaches. *J Photochem Photobiol B.* 2025 Mar 8;266:113147.
5. Priya.; Prasher, H. ; Kumar, A. ; **Kumar, D.** Impact of MYC on Metabolic Reprogramming, Cellular Energetics, and Tumorigenesis in Breast Cancer. *Chem Biol Lett* 2025, 12 (2), 1266.
6. Priya, A. Kumar, and **D. Kumar,** "Molecular heterogeneity and MYC dysregulation in triple-negative breast cancer; genomic advances and therapeutic implications," *3 Biotech*, vol. 15, no. 1, p. 33, 2025.
7. Priya, A. Kumar, A. K. Ghosh, R. Chauhan, R. Kumar, and **D. Kumar,** "Unveiling the effect of inflammatory cytokines TNF- $\alpha$ , IL-6, and IL-1 $\beta$  in breast cancer prevalence and progression," *Chem. Biol. Lett.*, vol. 12, no. 1, p. 1254, 2025.

### 2024

8. M. Kumar, A. Kumar, A. Srivastav, A. Ghosh, and **D. Kumar,** "Genomic and molecular landscape of gallbladder cancer elucidating pathogenic mechanisms, novel therapeutic targets and clinical implications," *Mutat. Res.-Fundam. Mol. Mech. Mutagen.*, p. 111896, 2024.
9. S. Arfin, K. Agrawal, S. Maurya, S. Asthana, D. Di Silvestre, and **D. Kumar,** "Lead phytochemicals and marine compounds against ceruloplasmin in cancer targeting," *J. Biomol. Struct. Dyn.*, vol. 42, no. 23, pp. 12703-12719, 2024.
10. D. Raj, A. Kumar, **D. Kumar,** K. Kant, and A. Mathur, "Gold-graphene quantum dot hybrid nanoparticle for smart diagnostics of prostate cancer," *Biosensors*, vol. 14, no. 11, p. 534, 2024.
11. A. Kumar, R. Agarwal, K. Kumar, N. K. Chayal, M. Ali, A. Srivastava, M. Kumar, et al., "High arsenic contamination in the breast milk of mothers inhabiting the Gangetic plains of Bihar: A major health risk to infants," *Environ. Health*, vol. 23, no. 1, p. 77, 2024.

12. R. Agarwal, A. Kumar, T. Pandey, N. K. Chayal, K. S. Verma, **D. Kumar**, et al., "High lead contamination in mother's breastmilk in Bihar (India): Health risk assessment of the feeding children," *Chemosphere*, vol. 364, p. 143064, 2024.
13. P. Awasthi, **D. Kumar**, and S. Hasan, "Role of 14-3-3 protein family in the pathobiology of EBV in immortalized B cells and Alzheimer's disease," *Front. Mol. Biosci.*, vol. 11, p. 1353828, 2024.
14. R. Kumar, T. Saha, A. Chaturvedi, A. Singh, and **D. Kumar**, "Deciphering the frontiers of stem cell research in regenerative medicine," *Chem. Biol. Lett.*, vol. 11, no. 4, p. 673, 2024.
15. A. Yajushii, K. Manishankar, and **K. Dhruv**, "The role of pesticides in cancer initiation and progression: A comprehensive review," *Chem. Biol. Lett.*, vol. 11, no. 3, p. 669, 2024.
16. K. Swati, R. Srivastava, K. Agrawal, S. P. Panda, A. Parkash, **D. Kumar**, et al., "Structure-based virtual screening identifying novel FOXM1 inhibitors as the lead compounds for glioblastoma," *Recent Pat. Anticancer Drug Discov.*, vol. 1, 2024.
17. A. Kumar, K. Kumar, M. Ali, V. Raj, A. Srivastava, M. Kumar, P. K. Niraj, et al., "Severe disease burden and the mitigation strategy in the arsenic-exposed population of Kaliprasad Village in Bhagalpur District of Bihar, India," *Biol. Trace Elem. Res.*, vol. 202, no. 5, pp. 1948-1964, 2024.
18. K. Swati, S. R. Varma, R. P. Parameswari, S. P. Panda, M. Agrawal, A. Prakash, et al., "Computational exploration of FOXM1 inhibitors for glioblastoma: An integrated virtual screening and molecular dynamics simulation study," *J. Biomol. Struct. Dyn.*, pp. 1-19, 2024.

## 2023

19. K. Agrawal, S. Asthana, and **D. Kumar**, "Role of Oxidative Stress in Metabolic Reprogramming of Brain Cancer," *Cancers*, vol. 15, p. 4920, 2023.
20. A. Kumar, M. Ali, V. Raj, A. Kumari, M. Rachamalla, S. Niyogi, **D. Kumar**, A. Sharma, A. Saxena, G. Panjawani, and P. Jain, "Arsenic causing gallbladder cancer disease in Bihar," *Sci. Rep.*, vol. 13, no. 1, p. 4259, 2023.
21. M. Goel, M. K. Mishra, and **D. Kumar**, "Recent advances in Targeted Radionuclide therapy for Cancer treatment," *Chem. Biol. Lett.*, vol. 10, no. 3, p. 544, 2023.
22. R. Bhattacharjee, N. Prabhakar, L. Kumar, A. Bhattacharjee, S. Kar, S. Malik, **D. Kumar**, J. Ruokolainen, A. Negi, N. K. Jha, and K. K. Kesari, "Crosstalk between long noncoding RNA and microRNA in Cancer," *Cell. Oncol.*, pp. 1-24, 2023.
23. S. Maurya, S. Raj, N. R. Bhoi, N. Mani, B. Rathi, and **D. Kumar**, "Morphological analysis of metabolically dysregulated spermatozoa using Artificial Intelligence based approach," *J. Integr. Sci. Technol.*, vol. 11, no. 4, p. 569, 2023.
24. S. Raj and **D. Kumar**, "Early epigenetic markers for precision medicine," *Prog. Mol. Biol. Transl. Sci.*, vol. 198, pp. 153-164, 2023.
25. A. Kumar, K. Kumar, M. Ali, V. Raj, A. Srivastava, M. Kumar, P. K. Niraj, M. Kumar, R. Kumar, **D. Kumar**, and A. Bishwapriya, "Severe Disease Burden and the Mitigation Strategy in the Arsenic-Exposed Population of Kaliprasad Village in Bhagalpur District of Bihar, India," *Biol. Trace Elem. Res.*, pp. 1-17, 2023.
26. S. Arfin, **D. Kumar**, A. Lomagno, P. L. Mauri, and D. Di Silvestre, "Differentially Expressed Genes, miRNAs and Network Models: A Strategy to Shed Light on Molecular Interactions Driving HNSCC Tumorigenesis," *Cancers*, vol. 15, p. 4420, 2023.
27. S. Arfin, K. Agrawal, S. Maurya, S. Asthana, D. Di Silvestre, and **D. Kumar**, "Lead phytochemicals and marine compounds against ceruloplasmin in cancer targeting," *J. Biomol. Struct. Dyn.*, Oct. 18, 2023.
28. K. Agrawal, P. Chakraborty, S. Dewanjee, S. Arfin, S. S. Das, A. Dey, M. Moustafa, P. C. Mishra, S. M. Jafari, N. K. Jha, S. K. Jha, and **D. Kumar**, "Neuropharmacological interventions of quercetin and its derivatives in neurological and psychological disorders," *Neurosci. Biobehav. Rev.*, vol. 144, p. 104955, Jan. 2023.
29. K. Agrawal, S. Chauhan, and **D. Kumar**, "Expression analysis and regulation of GLI and its correlation with stemness and metabolic alteration in human brain tumor," *3 Biotech*, vol. 13, no. 1, p. 10, Jan. 2023.
30. P. Chakraborty, A. Dey, A. V. Gopalakrishnan, S. Swati, S. Ojha, A. Prakash, **D. Kumar**, R. K. Ambasta, N. K. Jha, S. K. Jha, and S. Dewanjee, "Glutamatergic neurotransmission: A potential pharmacotherapeutic target for the treatment of cognitive disorders," *Ageing Res. Rev.*, vol. 85, p. 101838, Mar. 2023.
31. S. Raj, B. Rathi, P. Mehra, S. Asthana, and **D. Kumar**, "Deciphering the role of c-MET in Metabolic

reprogramming of Head and Neck squamous cell Carcinoma via In Silico analysis," *Chem. Biol. Lett.*, vol. 10, no. 2, p. 532, 2023.

## 2022

32. P. Awasthi, M. Dwivedi, **D. Kumar**, and S. Hasan, "Insights into intricacies of the Latent Membrane Protein-1 (LMP-1) in EBV-associated cancers," *Life Sci.*, vol. 313, p. 121261, Jan. 2023.
33. S. Sharma, R. Tyagi, M. Srivastava, K. Rani, **D. Kumar**, S. Asthana, and V. S. Raj, "Identification and validation of potent inhibitor of *Escherichia coli* DHFR from MMV pathogen box," *J. Biomol. Struct. Dyn.*, Jun. 2022, pp. 1-10.
34. S. Maurya, K. K. Kesari, S. Roychoudhury, J. Kolleboyina, N. K. Jha, S. K. Jha, A. Sharma, A. Kumar, B. Rath, and **D. Kumar**, "Metabolic dysregulation and sperm motility in male infertility," *Adv. Exp. Med. Biol.*, vol. 1358, pp. 257-273, 2022.
35. S. Das, S. Roychoudhury, A. Dey, N. K. Jha, **D. Kumar**, S. Roychoudhury, P. Slama, and K. K. Kesari, "Bacteriospermia and male infertility: Role of oxidative stress," *Adv. Exp. Med. Biol.*, vol. 1358, pp. 141-163, 2022.
36. S. Arfin, N. Mani, B. Rath, and **D. Kumar**, "In silico analysis of ceruloplasmin alteration in oral squamous cell carcinoma," *Chem. Biol. Lett.*, vol. 9, p. 342, 2022.
37. N. K. Jha, S. Arfin, S. K. Jha, R. Kar, A. Dey, and **D. Kumar**, "Re-establishing the comprehension of phytomedicine and nanomedicine in inflammation-mediated cancer signaling," *Semin. Cancer Biol.*, Feb. 23, 2022.
38. S. Raj, K. K. Kesari, A. Kumar, B. Rath, A. Sharma, P. K. Gupta, S. K. Jha, N. K. Jha, P. Slama, S. Roychoudhury, and **D. Kumar**, "Molecular mechanism(s) of regulation(s) of c-MET/HGF signaling in head and neck cancer," *Mol. Cancer*, vol. 21, no. 1, p. 31, 2022.
39. P. Pritam, R. Deka, and **D. Kumar**, "Antioxidants in Alzheimer's disease: Current therapeutic significance and future prospects," *Biology*, vol. 11, no. 2, p. 212, 2022.
40. A. Kumar and **D. Kumar**, "Assessment of disease burden in the arsenic exposed population of Chapar village of Samastipur district, Bihar, India, and related mitigation initiative," *Environ. Sci. Pollut. Res.*, 2022.

## 2021

41. C. Upadhyay, **D. Kumar**, et al., "Synthesis of the new analogs of morpholine and their antiplasmodial evaluation against the human malaria parasite *Plasmodium falciparum*," *New J. Chem.*, vol. 45, no. 2, pp. 123-134, 2021.
42. A. Singh, A.K. Singh, R. Giri, **D. Kumar**, R. Sharma, M. Valis, K. Kuca, and N. Garg, "The role of microRNA-21 in the onset and progression of cancer," *Future Med. Chem.*, vol. 13, no. 21, pp. 1885-1906, Nov. 2021.
43. M. Jeyaraman, M. Sathish, **D. Kumar**, et al., "Total Stromal Fraction (TSF) - Fortified Adipose Tissue-Derived Stem Cells Source: An Emerging Regenerative Realm Against COVID-19 Induced Pulmonary Compromise," *Coronaviruses*, vol. 1, pp. e080921196287, 2021.
44. A. Ali, S. Bano, **D. Kumar**, et al., "Effect of cellulose nanocrystals on chitosan/PVA/nano  $\beta$ -TCP composite scaffold for bone tissue engineering application," *J. Biomater. Sci. Polym. Ed.*, vol. 32, no. 4, pp. 502-515, 2021.
45. M. Aftab, M. Ghufuran, **D. Kumar**, et al., "In silico analysis of the role of hsa-miR-155-5p in cervical cancer," *Chem. Biol. Lett.*, vol. 8, no. 3, pp. 94-105, 2021.
46. M.B. Usman, S. Bhardwaj, S. Roychoudhury, **D. Kumar**, et al., "Immunotherapy for Alzheimer's Disease: Current Scenario and Future Perspectives," *J. Prev. Alzheimers Dis.*, vol. 8, pp. 534-551, 2021.
47. P.P. Sharma, M. Bansal, A. Sethi, L. Pena, **D. Kumar**, et al., "Computational methods directed towards drug repurposing for COVID-19: advantages and limitations," *RSC Adv.*, vol. 11, no. 57, pp. 36181-36198, 2021.
48. K. Goyal, H. Goel, P. Baranwal, A. Tewary, **D. Kumar**, et al., "Immunological Mechanisms of Vaccine-Induced Protection against SARS-CoV-2 in Humans," *Immuno*, vol. 1, pp. 442-456, 2021.
49. A. Sharma, **D. Kumar**, K. Dahiya, S. Hawthorne, S.K. Jha, N.K. Jha, P. Nand, S. Girgis, S. Raj, R. Srivastava, V.K. Goswami, Y. Gregoriou, S.A. El-Zahaby, S. Ojha, H. Dureja, G. Gupta, S. Singh, D.K. Chellappan, and K. Dua, "Advances in pulmonary drug targeting microbial biofilms in respiratory diseases," *Nanomedicine (Lond)*, vol. 16, no. 8, pp. 1057-1070, Aug. 2021.
50. M. Jeyaraman, M. Sathish, A. Bapat, **D. Kumar**, et al., "Bracing NK cell-based therapy to relegate pulmonary

inflammation in COVID-19," *Heliyon*, vol. 7, no. 7, pp. e07635, Jul. 2021.

51. A. Sharma, S. Hawthorne, S.K. Jha, N.K. Jha, **D. Kumar**, S. Girgis, V.K. Goswami, G. Gupta, S. Singh, H. Dureja, D.K. Chellappan, and K. Dua, "Effects of curcumin-loaded poly(lactic-co-glycolic acid) nanoparticles in MDAMB231 human breast cancer cells," *Nanomedicine (Lond)*, vol. 16, no. 20, pp. 1763-1773, Aug. 2021.
52. V. Chandel, S. Maru, A. Kumar, A. Kumar, A. Sharma, B. Rathi, **D. Kumar**, "Role of monocarboxylate transporters in head and neck squamous cell carcinoma," *Life Sci.*, vol. 279, pp. 119709, 2021.
53. S. Raj, A. Kumar, **D. Kumar**, "Regulation of Glycolysis in Head and Neck Cancer," *Adv. Exp. Med. Biol.*, vol. 1280, pp. 219-230, 2021.
54. V. Chandel, G. Tripathi, S.A. Nayar, B. Rathi, A. Kumar, and **D. Kumar**, "In silico identification and validation of triarylchromones as potential inhibitors against main protease of severe acute respiratory syndrome coronavirus 2," *J. Biomol. Struct. Dyn.*, vol. 39, no. 10, pp. 3767-3780, 2021.
55. R. Tyagi, M. Srivastava, B. Singh, S. Sharma, R.P. Pandey, S. Asthana, **D. Kumar**, and V.S. Raj, "Identification and validation of potent Mycobacterial proteasome inhibitor from Enamine library," *J. Biomol. Struct. Dyn.*, vol. 39, no. 8, pp. 2947-2960, 2021.
56. A. Mathur, S. Raj, N.K. Jha, et al., "Mutational heterogeneity in spike glycoproteins of severe acute respiratory syndrome coronavirus 2," *3 Biotech*, vol. 11, pp. 236, 2021.
57. S. Arfin, N.K. Jha, S.K. Jha, K.K. Kesari, J. Ruokolainen, S. Roychoudhury, B. Rathi, **D. Kumar**, "Oxidative Stress in Cancer Cell Metabolism," *Antioxidants*, vol. 10, no. 5, pp. 642, 2021.
58. A. Kumar, R. Kumar, M.S. Rahman, M. Ali, R. Kumar, N. Nupur, G. A., V. Raj, G. Anand, N. PK, N. Kumar, A. Srivastava, B.A. Biswapriya, G.B. Chend, **D. Kumar**, R. Tyagi, S. Kumar, M. Sakamoto, A.K. Ghosh, "Assessment of arsenic exposure in the population of Sabalpur village of Saran District of Bihar with mitigation approach," *Environ. Sci. Pollut. Res. Int.*, vol. 28, pp. 3512-3524, Apr. 2021.
59. A. Kumar, M.S. Rahman, M. Ali, et al., "Assessment of arsenic exposure and its mitigation intervention in severely exposed population of Buxar district of Bihar, India," *Toxicol. Environ. Health Sci.*, vol. 13, no. 2, pp. 211-225, 2021.
60. V. Chandel, et al., "In silico identification of potential inhibitor for TP53-induced glycolysis and apoptosis regulator in head and neck squamous cell carcinoma," *3 Biotech*, vol. 11, no. 3, pp. 117, 2021.

## 2020

61. A. Kumar et al., "Arsenic exposure causing cancer in the Indo-Gangetic Plain - A 2000 cancer patients' cross-sectional design," *Sci. Rep.*, vol. 11, no. 2376, 2021.
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