



Sonia Kapoor
Assistant Professor

Specialization: Cancer Biology, Microtubule cytoskeleton, Microtubule-targeted chemotherapeutics, Drug resistance and Metastasis, Biomaterials

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Dr. Sonia Kapoor obtained her M. Tech from IIT Kharagpur in 2008 and PhD in Biotechnology from IIT Bombay in 2014. During PhD, her research focused on the role of spatio-temporal regulation of microtubule dynamics in polarization and migration of tumor cells. After finishing PhD, she was appointed as Assistant Professor at Panjab University, Chandigarh. Dr Kapoor joined Amity institute of Molecular Medicine and Stem Cell Research in 2017. Her recent interest lies in understanding the microtubule-cytoskeleton dependent-mechanisms that contribute to metastasis and drug resistance in tumor microenvironment and to develop new approaches to restrict the same. Her work takes an interdisciplinary approach combining nanotechnology, biomaterials and modern cell biology tools. She has co-authored one textbook and edited one book as an associate editor. She has completed one research project funded by UGC, Govt of India and has supervised one M. Tech Thesis. Dr Kapoor is involved in teaching various courses including Basic and Applied immunology, Cytology, Animal Cell Culture and Genome Engineering and Editing.

Current Research Projects:

1. SERB, DST funded research project entitled “**Probing Microtubule Remodeling in Tumor Associated Macrophages and its implication for Microtubule-targeted Chemotherapy**”
2. DBT funded research project entitled “**Unveiling the Role of HDAC6: A Multipronged Approach to Restrict Breast Cancer Metastasis**”

Awards and Honors

1. Best Research Publication award, 2016-2017, UIET, Panjab University, (2017).
2. Young Scientist Award, New Biology 2015-16, Indian Science Congress Association, India (2016).
3. International travel award by American Society for Cell Biology (2012) and by DST (2010).
4. Silver Medal and Best student Award, IIT Kharagpur. Department Rank 1 in M. Tech (2008).
5. All India Rank 3; 99.9 Percentile in GATE (2006). MHRD fellowship for M.Tech (2006-2008)

Selected publications:

1. Rai A, **Kapoor S**, Naaz A, Kumar Santra M, Panda D. Enhanced stability of microtubules contributes in the development of colchicine resistance in MCF-7 cells. **Biochemical Pharmacology (2017)**; 132:38-47 (**Impact Factor: 5.0**)
2. **Kapoor S**, Kundu SC. Silk protein-based hydrogels: Promising advanced materials for biomedical applications. **Acta Biomater. (2016)**; 31:17-32 (**Impact Factor: 6.0**)
3. Rai A, **Kapoor S**, Singh S, Chatterji BP, Panda D. Transcription factor NF- κ B associates with microtubules and stimulates apoptosis in response to suppression of microtubule dynamics in MCF-7 cells. **Biochemical Pharmacology (2015)**; 93:277-89 (**Impact Factor: 5.0**)
4. Asthana J, **Kapoor S**, Mohan R, Panda D. Inhibition of HDAC6 Deacetylase Activity Increases Its Binding with Microtubules and Suppresses Microtubule Dynamic Instability in MCF-7 Cells. **Journal of Biological Chemistry, (2013)**;288:22516-26. (**Impact factor: 4.6**).
5. **Kapoor S**, Panda D. Kinetic stabilization of microtubule dynamics by indanocine perturbs EB1 localization, induces defects in cell polarity and inhibits migration of MDA-MB-231 cells. **Biochemical Pharmacology, (2012)**; 83:1495-1506 (**Impact factor: 5.0**).
6. Mandal BB*, **Kapoor S***, Kundu SC. Silk fibroin/polyacrylamide semi-interpenetrating network hydrogels for controlled drug release. **Biomaterials, (2009)**;30:2826-36.(*Equal authors) (**Impact factor: 8.4**).