Dr. Jayasha Shandilya
Associate Professor and Ramalingaswami fellow

Specialization: **Transcription regulation, Epigenetics, Chromatin biology and Cell cycle checkpoint control**

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Dr. Jayasha Shandilya obtained PhD in Biochemistry and Molecular Biology from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore. Her graduate research was focused in the area of epigenetic regulation of eukaryotic transcription. She studied how post-translational modifications, such as acetylation and phosphorylation of Nucleophosmin (NPM1) protein regulated its transcriptional activator and histone chaperone functions during normal cellular physiology and tumorigenesis. She further pursued her postdoctoral research at the State University of New York at Buffalo (SUNY, UB), where she investigated the regulation of tumor-suppressor p53-target genes under cellular stress and DNA damaging conditions. Her work on Wilms' tumor 1 (WT1) protein has identified a previously unknown role of WT1 in the regulation of cell cycle checkpoint function and genomic stability. She is continuing her research to gain better insights on how the cross-talk among cell-cycle checkpoint proteins and transcription factors control cell division and gene expression in normal and in malignant conditions.

Current Research Projects:

DBT-Ramalingaswami fellowship funded research project entitled "Regulation of mitotic checkpoint function by NF-κB and p53 signaling network: implications in genomic instability and carcinogenesis."

Fellowships, Honors and Affiliations:

1. Ramalingaswami Fellowship Award, DBT (2020-2025)
2. American Association for Cancer Research (AACR), Associate Member (2015-present)
3. Research Fellow, Council of Scientific & Industrial Research, India (2005-2010)
4. Jawaharlal Memorial Merit Award, Jawaharlal Nehru University, 2005
5. J.C. Nag Memorial Medal, Presidency University, 2004

Selected Publications:

1. Marsh LA, Carrera S, **Shandilya J**, Heesom KJ, Davidson AD, Medler KF, Roberts SG. BASP1 interacts with oestrogen receptor α and modifies the tamoxifen response. ***Cell Death Dis. 2017;*** 8(5):e2771. (**IF - 5.63**)

2. **Shandilya J**, Medler KF, Roberts SG. Regulation of AURORA B function by mitotic checkpoint protein MAD2. ***Cell Cycle. 2016****; 15:2196-2201.* **(IF - 3.53)**

3. **Shandilya J**, Gao Y, Nayak TK, Roberts SGE, Medler KF. AP1 transcription factors are required to maintain the peripheral taste system. ***Cell Death Dis. 2016;*** *7:e2433.* **(IF - 5.63)**

4. **Shandilya J**, Toska E, Richard D, Medler KF, Roberts SGE. WT1 Interacts with Mad2 and Regulates Mitotic Checkpoint Function. ***Nature Communications, 2014;*** *5:4903*. (**IF - 11.47**)

5. **Shandilya J**, Senapati P, Dhanasekaran K, Bangalore SS, Kumar M, Kishore AH, Bhat A, Kodaganur GS, Kundu TK. Phosphorylation of multifunctional nucleolar protein nucleophosmin (NPM1) by aurora kinase B is critical for mitotic progression. ***FEBS Lett. 2014;*** *588:2198-2205.* (**IF - 3.16**)

6. **Shandilya J**, Wang Y, Roberts SG. TFIIB dephosphorylation links transcription inhibition with the p53-dependent DNA damage response. ***Proc. Natl. Acad. Sci. USA. 2012;*** *109:18797-18802.* **(IF - 9.73)**