

G Anika Rao

M.Sc. Biotechnology (Final Year) • University of Delhi

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Oncological Diagnostics ♦ Liquid Biopsy & ctDNA ♦ CRISPR Therapeutics ♦ Cancer Immunology

EDUCATION

- M.Sc. Biotechnology** | University of Delhi 2022 – 2024
9.1 / 10 | Specialisation: Molecular Oncology & Bioinformatics
- B.Sc. (Hons.) Biotechnology** | Miranda House, University of Delhi 2019 – 2022
Aggregate: 87.3% | Best Undergraduate Project Award

RESEARCH EXPERIENCE

- Graduate Research Associate** | Dr. Anita Sharma Lab, AIIMS Delhi January 2023 – Present
- Established CRISPR-Cas9 knockout model of MET exon 14 skipping in A549 cells; validated via Sanger sequencing and Western blot (band quantification in ImageJ)
 - Quantified PD-L1 expression via multiparametric flow cytometry (BD FACSCanto II) across 60+ patient samples; gating strategy and analysis in FlowJo v10
 - Co-authored manuscript submitted to *Int. J. Mol. Sci.* (Under Review, 2024); responsible for all figures, statistical analysis, and supplementary materials
- Research Intern** | National Centre for Biological Sciences (NCBS), Bangalore May – July 2022
- Profiled transcriptional changes in MCF-7 cells post tamoxifen treatment via bulk RNA-seq; downstream analysis using DESeq2 and edgeR on Galaxy platform
 - Performed Western blot for ER-alpha, PR, and HER2 markers across 6 breast cancer cell lines; quantified band intensities using ImageJ
 - Contributed to ELISA-based cytokine profiling (IL-6, TNF-alpha, IFN-gamma) for tumour microenvironment characterisation across 20 clinical samples

PUBLICATIONS & PRESENTATIONS

- [Journal/Preprint]** Rao A, Kumar R, Sharma A. "ddPCR-based EGFR T790M detection in liquid biopsies of NSCLC patients." *bioRxiv* (Under Review, February 2024)
- [Poster/Oral]** "Multiparametric flow cytometry for immune checkpoint profiling in NSCLC" – IACR Annual Conference, Mumbai, 2023 | Best Poster Award
- [Oral]** "CRISPR-mediated modelling of MET exon 14 skipping" – DU Life Sciences Symposium, Delhi, 2023

TECHNICAL SKILLS

Molecular Biology	qRT-PCR, ddPCR, Western blot, ELISA, CRISPR-Cas9, Sanger sequencing, molecular cloning
Cell Biology	Mammalian cell culture (A549, MCF-7, HEK293T), FACS (multiparametric), immunofluorescence, MTT assay
Genomics / Omics	NGS library prep (Illumina), RNA-seq (DESeq2, edgeR), variant calling (GATK), TCGA & GEO mining
Computational	Python (pandas, matplotlib, scikit-learn), R (ggplot2, DESeq2, Seurat), NCBI BLAST, Cytoscape

AWARDS & FELLOWSHIPS

- *DBT-Junior Research Fellowship (JRF) – Qualified, 2024*
- *CSIR-NET Life Sciences – Qualified (LS), June 2023*
- *Merit Scholarship – University of Delhi (2020–2022), top 5% of cohort | Best Poster Award – IACR Annual Conference, Mumbai 2023*

RELEVANT COURSEWORK

Cancer Biology & Oncogenomics • Structural Bioinformatics • Advanced Immunology • Drug Discovery & Development • Biostatistics & R

MEMBERSHIPS & SERVICE

- *Student Member – Indian Association for Cancer Research (IACR)*
- *Teaching Assistant – Molecular Biology Practical Lab, M.Sc. Year 1, Dept. of Biotechnology, DU (2023)*
- *Science Popularization Programme Campus Coordinator – University of Delhi (2022–2023)*