Sanketa Sanjay Raut

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Date of Birth: 16th Oct 1994

Profile

A highly motivated research scholar with a strong background in molecular biology and genetic engineering. I am currently pursuing Ph.D. in the subject of Life Sciences. I am fascinated by research and the creative freedom of problem solving and answering the unsolved questions. I pride myself with sincere and hardworking efforts I put in my work. I believe we must be like a hope to others in whatever we do, and that hope is enough to get through life.

Academics

2018-Present:	Dept. of Neuroendocrinology, ICMR-National Institute for Research in Reproductive Health, Mumbai, India **Ph.D. Student** Specialization: **Life Science (Reproductive Biology)**
2012-2017:	D Y Patil University, School of Biotechnology and Bioinformatics, Navi Mumbai, India **M.Tech Integrated** Specialization: **Biotechnology** Grade: 1st Class with Distinction
2010-2012:	Sathaye College, Mumbai, India **H.S.C** Specialization: **Science** Grade: 1st Class

Work Experience

Sept 2018-Present	**Ph.D. Student** at ICMR- National Institute for Research in Reproductive Health (ICMR-NIRRH), Mumbai on a project entitled '**Molecular mechanisms involved in prolactin and dopamine signaling in male reproduction**' under the guidance of **Dr. Nafisa H. Balasinor**, Scientist 'F', funded by **Science and Engineering Research Board (SERB), India.**
Aug 2017-Sept 2018:	**Junior Research Fellow** at National Institute for Research in Reproductive Health (NIRRH-ICMR), Mumbai on a project entitled **'Genome-wide mapping of androgen and estrogen receptor binding sites in adult rat**

seminiferous epithelium' under the guidance of **Dr. Nafisa Balasinor**, Scientist 'F', funded by **Department of Biotechnology (DBT), India.**

Jan 2017-May 2017: **Summer trainee** on a dissertation project entitled **'The study of tumorigenecity in ARID2 down-regulated clones of oral cancer cell line'** at Advanced Centre for Treatment, Research and Education in Cancer (ACTREC), Tata Memorial Centre under the guidance of **Dr. Pradnya Kowtal.**

Publications

- **Raut, S**., Kumar, A. V., Deshpande, S., Khambata, K., & Balasinor, N. H. **(2021).** Sex hormones regulate lipid metabolism in adult Sertoli cells: A genome-wide study of estrogen and androgen receptor binding sites. *The Journal of Steroid Biochemistry and Molecular Biology*, 211, 105898. **(Impact Factor: 4.29)**
- **Raut, S**., Kumar, A. V., Khambata, K., Deshpande, S., & Balasinor, N. H. **(2020)**. Genome-wide identification of estrogen receptor binding sites reveals novel estrogen-responsive pathways in adult male germ cells. *Biochemical Journal*, 477(12), 2115-2131. **(Impact Factor: 3.85)**
- **Raut, S.,** Deshpande, S., & Balasinor, N. H. (2019). Unveiling the Role of Prolactin and its Receptor in Male Reproduction. *Hormone and Metabolic Research*. (**Impact Factor: 2.93**)
- Khambata, K., **Raut, S**., Deshpande, S., Mohan, S., Sonawane, S., et al. & Balasinor, N. H. (2021). DNA methylation defects in spermatozoa of male partners from couples experiencing recurrent pregnancy loss. *Human Reproduction*, 36(1), 48-60. **(Impact Factor: 6.91)**
- Kumar, A., **Raut, S.,** & Balasinor, N. H. (2018). Endocrine regulation of sperm release. *Reproduction, Fertility and Development*, 30(12), 1595-1603. (**Impact Factor: 2.31**)
- Kumar, A., Dumasia, K., Deshpande, S., **Raut, S.,** & Balasinor, N. H. (2018). Delineating the regulation of estrogen and androgen receptor expression by sex steroids during rat spermatogenesis. *The Journal of steroid biochemistry and molecular biology*, 182, 127-136. (**Impact Factor: 4.29**)

Research Skills

- Experience in various **molecular biology** techniques with special expertise in

1. **DNA:** DNA extraction, PCR, Gel Electrophoresis, Chromatin Immunoprecipitation (ChIP), Methylation Analysis by Pyrosequencing
2. **RNA:** RNA extraction, qPCR, Microarray
3. **Protein:** SDS-PAGE, Western Blotting, Immunofluorescence, ELISA, Flow Cytometry

- Expertise in **tissue culture** techniques with experience in maintenance of cell lines and assays for its characterization including **MTT, Soft agar and Invasion assay**. Experience in **primary cultures** of testicular cells, like seminiferous epithelium and Sertoli cells.

- Hands on experience in **animal handling**, comfortable with cervical dislocation, drug dosing, dissection of major organs of rat and mice.

- Friendly with various **Bioinformatics** databases. Experience in **analysis of NGS data** of ChIP-Seq and RNA-Seq. Proficiency in **Perl** programming language.

Achievements and Awards

- **Scientific Research Scholarship** awardee by **Lady Tata Memorial Trust**: Student fellowship for Ph.D. research work for five years from August 2019 – July 2024.
- Received **Best Poster Award** for the poster entitled 'Mapping of estrogen receptor alpha (ERα) and beta (ERβ) binding sites in germ cells of adult rat testes' at **National Research Scholar's Meet (NRSM)** conference, 2018, Mumbai, India.
- **NGBT GYAN Scholarship Award** for poster presentation entitled 'Genome-wide mapping of estrogen receptor alpha (ERα) and beta (ERβ) in germ cells of adult male rats' at **NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT)** conference, 2018, Jaipur, India.
- Qualified **GATE** (Graduate Aptitude Test in Engineering) 2017, **AIR: 459**.

Referees:

- **Dr. Nafisa H. Balasinor**, **Scientist 'F'** and HOD, Department of Neuroendocrinology, ICMR-National Institute for Research in Reproductive Health (ICMR-NIRRH). Email ID: balasinorn@nirrh.res.in
- **Dr. Geetanjali Sachdeva**, **Scientist 'G'** and **Director**, Department of Primate Biology, ICMR-National Institute for Research in Reproductive Health (ICMR-NIRRH). Email ID: sachdevag@nirrh.res.in

Languages:

- English, Marathi, Hindi – Fluent (Written and conversational)