Johan Ajnabi

PhD Candidate

johanajnabi@gmail.com Google Scholar johanajnabi https://johanajnabi.github.io/

WORK EXPERIENCE

Institute for Stem Cell Science and Regenerative Medicine, India

Research Scholar . . . . . *Aug 2019 – Present*

■**Epigenetic and mechanical regulation of wound response:**
Understanding the regulation of subcellular localization of *de novo* DNA methyltransferase, DNMT3a, an epigenetic regulator upon wound-induced mechanical cues (bioRxiv: Ajnabi *et al.,* 2026).

■**Endocytosis-linked integrin signaling in keratinocyte stemness maintenance:**
Uncovering a Mindin-integrin-STAT3 signaling axis that sustains keratinocyte stemness through integrin endocytosis and downstream transcriptional activation (bioRxiv: Dam *et al.,* 2025).

■**Study of a matricellular protein in cutaneous fibrogenesis:**
Understanding the role of Mindin as a critical regulator of dermal fibrogenesis in a mouse model of systemic sclerosis (Published article: Rana *et al.,* 2023).

■**Role of antimicrobial peptides (AMPs) in combating different variants of SARS-CoV2:** Studying how niacinamide potentiates cathelicidin-mediated antiviral activity by enhancing membrane disruption of SARS-CoV-2 (Published article: Bhatt *et al.,* 2023).

■**Maintenance of stem/progenitor state of skin epithelial cells and carcinomas:** This study identifies an autocrine Snail-Mindin signaling loop that sustains epithelial stemness in both normal skin and carcinoma contexts (Published article: Badarinath *et al.,* 2022).

ICAR-National Institute for Plant Biotechnology, India

AIEEA PG Scholar . . . . . *Jul 2017 – Jul 2019*

■**Identification of *cis*-regulatory region of a promoter:**
Identifying *cis*-regulatory elements controlling PM19 gene expression in wheat, contributing to understanding of stress-responsive transcriptional regulation. (Masters' Thesis: Ajnabi, 2019)

FEATURED PUBLICATIONS (8 IN TOTAL)

■**Ajnabi, J.**, Dam, B., Gupta, E., Saha, T., Dutta, A., Kumar, S., Gupta, A., Palakodeti, D. and Jamora, C., 2026. Actin-dependent mechanotransduction controls nucleocytoplasmic partitioning of DNMT3a through ERK1/2 signaling during cutaneous wound healing. *bioRxiv*, pp.2026-01.

FEATURED PRESENTATIONS (5 IN TOTAL)

■Presented poster on "Epigenetic and mechanical regulation of the cutaneous wound healing" (MBI Conference 2023: Mechanobiology in Health and Disease, Singapore, September 26-29, 2023)

■Presented poster on "Understanding the role of DNMT3a in the cutaneous wound healing response using a mouse model" (10th International Conference of Laboratory Animal Scientists' Association (LASA), India, Hyderabad, June 3 and 4, 2022)

FEATURED ACHIEVEMENTS

■Paeonia Travel Award for attending and presenting my work at the MBI Conference 2023: Mechanobiology in Health and Disease, NUS, Singapore

SUMMARY

I am a life science researcher interested in understanding how mechanical cues regulate cell-state transitions during cutaneous wound healing. My research focuses on epithelial mechanotransduction, cytoskeletal dynamics, and epigenetic regulation, particularly actin-dependent control of DNMT3A during tissue repair and regeneration.

SKILLS

Wet Lab: Handling and managing of mouse colonies and experimentation, primary cell culture, confocal and multiphoton microscopy, flow cytometry, genetic engineering, protein purification, BLSII practices, generation of pseudovirus, qPCR, western blots
ML: NumPy, SciPy, Pandas,
OS: Linux, Windows
Misc.: Git, Bash, LaTeX
Soft: responsible, organized, critical thinker, flexible, communicative, team player, patient

EDUCATION

BRIC-inStem . . . . . **Bengaluru, India**
PhD *August 2019 – Present*
Thesis: Regulation of DNMT3a localization in the cutaneous wound healing response.
Advisor: Dr. Colin Jamora

ICAR-IARI . . . . . **New Delhi, India**
MSc in Molecular Biology and Biotechnology *July 2017 – July 2019*
Thesis: Identification of cis-regulatory regions regulating the expression of PM19 gene in wheat.
Advisor: Dr. Monika Dalal GPA: 8.51/10

BCKV . . . . . **Mohanpur, India**
BSc in Agriculture *July 2013 – July 2017*
GPA: 7.92/10 (with honours).

LANGUAGES

■Bengali (Native) ■English (Advanced)

INTERESTS

Coffee, Piano, Hiking, Traveling