

PROFILE

Fifth-year PhD candidate at Johns Hopkins School of Medicine investigating the role of CRISPR-edited T-cell receptors in solid tumor immunotherapy. Three peer-reviewed publications (including one as first author in Nature Immunology). NIH F31 fellowship applicant with 4 years of funded research. Seeking postdoctoral position at the intersection of synthetic biology and cancer immunology.

SKILLS

- CRISPR-Cas9 Gene Editing & Knock-in/Knockout Design
- Flow Cytometry & Single-Cell RNA Sequencing (scRNA-seq)
- Murine Tumor Models & In Vivo Imaging
- Western Blot, ELISA, Co-Immunoprecipitation
- Python & R (Bioinformatics: DESeq2, Seurat, STAR)
- Confocal & Fluorescence Microscopy
- Grant Writing & NIH Biosketch Preparation

AWARDS

- Nair P. et al. — 'Dual-checkpoint CRISPR editing enhances T-cell persistence in solid tumors.' Nature Immunology, 2024, Mar 2024
- Vasquez E., Nair P. et al. — 'LAG-3 ablation synergizes with PD-1 blockade in melanoma.' Cancer Cell, 2023, Sep 2023

Dr. Priya Nair

PhD Candidate — Molecular & Cellular Biology | NIH F31 Fellowship Applicant

WORK EXPERIENCE

PhD Researcher — Tumor Immunology Lab

Johns Hopkins School of Medicine | Aug 2020 - Present

- Engineered CRISPR-Cas9 knockout T-cell lines targeting PD-1/LAG-3 dual-checkpoint pathways in solid tumors
- Demonstrated 3.4-fold improvement in tumor killing efficacy in murine melanoma models (Nature Immunology, 2024)
- Secured NIH F31 Ruth L. Kirschstein Fellowship (\$148,000 over 3 years) — awarded 2023
- Mentored 3 rotation students and 1 undergraduate researcher through independent projects

Graduate Teaching Assistant

JHU Department of Biology | Sep 2021 - May 2023

- Led weekly lab sections of 20 students for Cell Biology and Immunology courses
- Received 'Outstanding TA' award from department, Spring 2022

Research Intern — Protein Engineering

Tata Institute of Fundamental Research | May 2019 - Jul 2019

- Assisted in structural characterization of novel chaperone proteins using cryo-EM
- Contributed to data analysis for a manuscript published in Journal of Biological Chemistry

- Nair P., Sharma R. — 'Chaperone dynamics in ER stress responses.' Journal of Biological Chemistry, 2020, Jan 2020

- NIH F31 Ruth L. Kirschstein NRSA Fellowship — \$148,000 awarded, Jun 2023

- AACR Scholar-in-Training Award — Annual Meeting, New Orleans, Apr 2024

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EDUCATIONAL HISTORY

Ph.D. Molecular & Cellular Biology (In Progress) — Advisor: Prof. Elena Vasquez at Johns Hopkins University School of Medicine

Aug 2020 - Expected May 2026

B.Sc. Biotechnology — First Class Honours, GPA: 9.4 / 10 at University of Delhi — Lady Shri Ram College

Jul 2016 - May 2019

M.Sc. Biochemistry — Gold Medalist, GPA: 9.7 / 10 at Indian Institute of Science, Bangalore

Aug 2019 - Jun 2021