Dr. Muhammad Tariq Navid

UN-IVI Fellow; WHO-GTH (B) Fellow, CDC Fellow, CSC-Fellow

Associate Professor (Tenured)
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Profile

Dr. Muhammad Tariq Navid is an accomplished microbiologist, virologist, and vaccinologist with over 18 years of academic, research, and clinical experience in infectious diseases, molecular virology, and vaccine development. Dr. Navid has led and contributed to numerous national and international research projects supported by the HEC, the WHO, the USDA, and the CSC, with a strong focus on infectious/ zoonotic diseases, and antimicrobial resistance. Dr. Navid's research experience generally encompasses advanced molecular diagnostics, viral pathogenesis, vaccine design and evaluation, epidemiological surveillance, and translational research aimed at controlling emerging and re-emerging infectious diseases.

Dr. Navid has undertaken extensive and specialized trainings in vaccine science and bio-manufacturing processes from the International Vaccine Institute (IVI) of the United Nation (UN), the State Key Laboratory for Agricultural Microbiology and the Center for Disease Control and Prevention (CDC) covering the complete pipeline from target antigen selection to sub-clinical and clinical trials. Dr. Navid has comprehensive expertise on applied and personalized vaccinology that sharpens his practices from traditional vaccine development towards the use of recombinant, vector-based, virus-like particle (VLP) and mRNA vaccine platforms along with their *in-silico*, *in-vitro* and *in-vivo* evaluation, and pre- and post-marketing analysis.

Dr. Navid is an HEC-approved PhD supervisor, an experienced educator, and an active reviewer for leading international journals.

Research Interest

Vaccinology • Recombinant & mRNA Vaccines • Zoonotic Diseases & One Health

Selected Publications:

- ✓ Malik A, Ali F, Safdar W, Saeed MT, Navid MT, Ansari F. (2026). Molecular and epidemiological characterization of human parainfluenza virus Type 4b in children with respiratory illnesses in Cholistan, Pakistan. *Infect Dis Now*. Jan; 56(1):105218. doi: 10.1016/j.idnow.2025.105218. PMID: 41319870.
- ✓ Abdaal, K., Batool, A. & Navid, M.T. (2025). In Silico design of multi-epitope vaccines against the foot and mouth disease virus (FMDV) structural protein (P1) region of

serotype O by integrated structural vaccinology and molecular modeling approaches. *Netw Model Anal Health Inform Bioinforma.* 14, 98 https://doi.org/10.1007/s13721-025-00597-z.

- ✓ Rasheed, M. A., Raza, S., Alonazi, W. B., Ashraf, M. A., Navid, M. T., Aslam, I., Iqbal, M. N., Rahman, S. U., & Riaz, M. I. (2023). Design and Assessment of a Novel In Silico Approach for Developing a Next-Generation Multi-Epitope Universal Vaccine Targeting Coronaviruses. *Microorganisms*, *11*(9), 2282. https://doi.org/10.3390/microorganisms11092282.
- ✓ Adnan R., Rasheed MA., Raza S., Navid MT., Afzal A., Jamil F. (2022). Prediction and analysis of multi epitope based vaccine against Newcastle disease virus based on haemagglutinin neuraminidase protein. *Saudi Journal of Biological Sciences*. 29(4):3006-3014. https://doi.org/10.1016/j.sjbs.2022.01.036.
- ✓ Deng, F., Ye, G., Liu, Q., Navid, M. T., Zhong, X., Li, Y., Wan, C., Xiao, S., He, Q., Fu, Z. F., & Peng, G. (2016). Identification and Comparison of Receptor Binding Characteristics of the Spike Protein of Two Porcine Epidemic Diarrhea Virus Strains. *Viruses*, *8*(3), 55. https://doi.org/10.3390/v8030055.

Grants/Awards/Achievements

On Going Research Projects

- ✓ Assessment of FMD virus like particle (VLP) as potential vaccine candidate for FMD recombinant vaccine: A strategy towards remodeling of FMD vaccine in Pakistan (HEC): In Progress
- ✓ Assessment of COVID-19 Pandemic Response in Pakistan: Review of Monitoring and Evaluation System. (WHO): In Progress

Patents: 3

Achievements:

- ✓ WHO–GTH(B) & IVI Fellow
- ✓ CDC & NIH Certified Trainings
- ✓ Advanced training in biologics manufacturing, vaccinology, quarantine health, and biosafety

Honors & Professional Service

- ✓ IVI Fellowship Award | HEC Research Awards | ZSTU Distinguished Scholar
- ✓ Editorial board member and reviewer for Springer Nature, Virology Journal, Microbial Pathogenesis, and others
- ✓ Member, Boards of Studies and Academic Committees, NUMS