



राष्ट्रीय प्रतिरक्षाविज्ञान संस्थान

जैव प्रौद्योगिकी विभाग, विज्ञान और प्रौद्योगिकी मंत्रालय, भारत सरकार का स्वायत्त अनुसंधान संस्थान

NATIONAL INSTITUTE OF IMMUNOLOGY

An Autonomous Research Institute of the Department of Biotechnology, Ministry of Science and Technology
Government of India

CITATION

Dr. Nandicoori's research has contributed an exhaustive body of work establishing novel concepts, technologies, and early lead molecules in defining kinase-mediated signaling networks in *Mycobacterium tuberculosis* (*Mtb*). *Mtb* contains eukaryotic-like protein Serine/Threonine kinases, and his group has elucidated the biology of two essential kinases (PknA and PknB), an essential phosphatase (PstP) and an unusual thioredoxin-fold containing kinase PknG. By generating technologies that permit elegant analyses of specific kinases in the infectious pathogen, his group has identified remarkably essential phosphorylated protein substrates. In a series of carefully designed studies, his group established molecular and biochemical essentiality of N-acetylglucosamine- 1-phosphate uridylyltransferase (GlmU) and established the therapeutic potential of targeting PknG against latent mycobacterium. Work from his lab provided a link between *Mtb* infection and host DNA damage and established a role for host epigenetics in immune responses, opening up new possibilities for host-directed therapy for the treatment of TB. His group identified a novel role for DNA repair genes in the evolution of drug resistance and identified a novel transcription factor that regulates stress-responsive biosynthesis of Cysteine in *Mtb*.

Together, he has published 52 outstanding papers in high-Impact journals such as *EMBO J*, *Nature Communication*, *Elife*, *PLoS Pathogen*, *J. Biol. Chem.* addressing mycobacterial pathogenesis at the host-pathogen interface. New vectors his laboratory has generated have been widely used and acknowledged by mycobacterial researchers worldwide. Technologies and small molecule lead emerging from this solid work show his group's unique capabilities in undertaking challenging problems towards eliminating global Tuberculosis, in future.

Rajesh Gokhale