

CURRICULUM VITAE

Name of the applicant: VINAY KUMAR NANDICOORI

Father's Name Mr. Vijayakumar Nandikur

Date of Birth 01/03/1969

Current Position & Address Director,
CSIR-Centre for Cellular & Molecular
Biology
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Nationality INDIAN

Marital Status Married

Educational Qualification (from BSc onward):

S. No.	Degree	Board/University	Division	Year of Passing	Subjects
1	Ph.D.	Indian Institute of Science, Bangalore, India	----	1999	Microbiology & Cell Biology
2	M.Sc.	Indian Institute of Technology Mumbai, INDIA.	First	1991	Biotechnology
3.	B.Sc	Andhra University, Visakhapatnam	First	1989	Chemistry, Physics & Mathematics

Academic Experience (from current to oldest):

S. No.	From	To	Name of the Organization	Position held	Scale of Pay
1	06/2021	Present	CSIR-Centre for Cellular and Molecular Biology	Director	Level 15
2	07/2018	05/2021	National Institute of Immunology New Delhi, INDIA.	Staff Scientist VII	Level 14 Rs. 182700
3	07/2012	07/2018	National Institute of Immunology New Delhi, INDIA.	Staff Scientist VI	Rs. 37400-67000; GP Rs. 8900
4	07/2008	07/2012	National Institute of Immunology New Delhi, INDIA.	Staff Scientist V	Rs. 37400-67000; GP Rs. 8700
5	07/2004	07/2008	National Institute of Immunology New Delhi, INDIA.	Staff Scientist IV	Rs. 15600-39100; GP Rs. 7600

Professional training undergone:

Institution & Place	Position	Year
University of Virginia Charlottesville, USA.	Research Associate	Nov. 2000 to July 2004
Texas A & M University Texas, USA.	Research Associate	Oct. 1997 to Oct. 2000

Areas of Specilization:

Molecular and Cellular Biology, Microbiology and Biochemistry

Honors/ Awards/Recognitions received:

JC Bose Fellow (Aug 2019)
P.S. Sarma Memorial Award (2016)
Awarded Bill and Melinda Gates Foundation Global Health Travel Award (2010)
Awarded National Bioscience Award for Career Development (2010)
M Prof. B. K. Bachhawat International Travel Grant for Young Scientist (2011).
NASI-Scopus Young Scientist Award (2009)
Sreenivasaya Award for the Best Thesis, IISc, Bangalore, India (1999)
Senior Research Fellow- CSIR 1994-1997

Junior Research Fellow- CSIR 1992-1994
Department of Biotechnology Fellowship (1988-1990), India.

Academy Fellowships

Fellow, Indian National Science Academy, Delhi (2019)
Fellow, Indian Academy of Sciences (India), Bangalore (2018)
Fellow, The National Academy of Sciences (India), Allahabad, (2014)

Total Research / Academic / Administrative experience (Years):

33 years as a Researcher
29 years since Ph.D
20 years as an Independent investigator.
3 years as the Director, CCMB

Professional Experience and Training

June 2021-Present: Director, Centre for Cellular and Molecular Biology, Hyderabad, INDIA.

June 2018-May 2021: Staff Scientist VII, National Institute of Immunology, New Delhi, INDIA.

July 2012-June 2018: Staff Scientist VI, National Institute of Immunology, New Delhi, INDIA.

July 2008-July 2012: Staff Scientist V, National Institute of Immunology, New Delhi, INDIA.

July 2004 –July 2008: Staff Scientist IV, National Institute of Immunology, New Delhi, INDIA.

FULL LIST OF PUBLICATIONS

<i>Total publications</i>	<i>84</i>
<i>Peer-reviewed Research Publications</i>	<i>82</i>
<i>Reviews</i>	<i>2</i>
<i>Book Chapter</i>	<i>2</i>
<i>Publications as independent Investigator</i>	<i>59</i>
<i>Total number of citations</i>	<i>3305 (Google Scholar)</i>
<i>H-index</i>	<i>33 (Google Scholar)</i>
<i>i-10 index</i>	<i>60 (Google Scholar)</i>

List of Publications

* corresponding author

1. Khan MZ, Hunt DM, Singha B, Kapoor Y, Singh NK, Prasad DVS, Dharmarajan S, Sowpati DT, de Carvalho*, **Nandicoori VK***. (2024) Divergent downstream biosynthetic pathways are supported by L-cysteine synthases of *Mycobacterium tuberculosis*. *eLife*. 12:RP91970. doi: 10.7554/eLife.91970.PMID: 39207917.
2. Agarwal M., Bhaskar A., Singha B., Mukhopadhyay S., Pahuja I., Singh A., Chaturvedi S., Agarwal N., Dwivedi V.P., **Nandicoori V.K.*** (2024). Depletion of essential mycobacterial gene glmM reduces pathogen survival and induces host-protective immune responses against tuberculosis. *Comm. Biol.* Doi: 10.1038/s42003-024-06620-9
3. Keshavam C.C., Naz S., Gupta A., Sanyal P., Kochar M., Gangwal A., Sangwan N., Kumar N., Tyagi E., Goel S., Singh N.K., Sowpati D.T., Khare G., Ganguli M., Raze D., Loch C., Basu-Modak S., Gupta M., **Nandicoori V.K***, Singh Y*. (2023) The heparin-binding hemagglutinin protein of *Mycobacterium tuberculosis* is a nucleoid-associated protein. *J. Biol. Chem.* 299(12): 105364.
4. Bisht M.K., Pal R., Dahiya P., Naz S., Sanyal P., **Nandicoori V.K.**, Ghosh S., Mukhopadhyay S. (2023) The PPE2 protein of *Mycobacterium tuberculosis* is secreted during infection and facilitates mycobacterial survival inside the host. *Tuberculosis* 143: 102421.
5. Malakar B., Chauhan K., Sanyal P., Naz S., Kalam H., Vivek-Ananth R.P., Singh L.V., Samal A., Kumar D*, **Nandicoori V.K.*** (2023) Phosphorylation of CFP10 modulates *Mycobacterium tuberculosis* virulence. *mBio* 14(5): e0123223.
6. Naz S., Paritosh K., Sanyal P., Khan S., Singh Y., Varshney U., **Nandicoori V.K***. (2023) GWAS and functional studies suggest a role for altered DNA repair in the evolution of drug resistance in *Mycobacterium tuberculosis*. *eLife* 12: e75860.
Work highlighted in
<https://vigyanprasar.gov.in/isw/Study-provides-new-insights-into-drug-resistant-Tuberculosis.html2:e75860>. doi: 10.7554/eLife.75860.
<https://www.thehindu.com/sci-tech/health/scientists-identify-mutations-in-dna-for-early-diagnosis-of-drug-resistant-bacteria-for-tb/article66819470.ece>
7. Singha B., Behera D., Khan M.Z., Singh N.K., Sowpati D.T., Gopal B*, **Nandicoori V.K.*** (2023) The unique N-terminal region of Mycobacterium tuberculosis sigma factor A plays a dominant role in the essential function of this protein. *J. Biol. Chem.* 299(3):102933. doi: 10.1016/j.jbc.2023.102933.
8. Soman S., Chattopadhyay S., Ram S., **Nandicoori V.K.**, Arimbasseri G.A. (2023) Codon Optimality has minimal effect on determining translation efficiency in Mycobacterium tuberculosis. *Sci. Rep.* 13(1):415. doi: 10.1038/s41598-022-27164-0.

9. Naz S., Dabral S., Kumar D., **Nandicoori V.K.*** (2022) Protocol for *ex vivo* competition and sequencing of mycobacterium isolated from infected guinea pigs. **STAR Protoc.** 29;3(4):101804. doi: 10.1016/j.xpro.2022.101804.
10. Steven A.K., Mark T.K.C., William L.H., Kimia K., Himanshu C., Tanzin D., Hema G., Hemlata L., Kalaiarasan P., Kaptan V., Mahesh Shanker D., Singh M.K., Meena D., Soni N., Meena N., Madan P., Singh P., Sharma R., Sharma R., Kabra S., Kumar S., Swati Kumari, Sharma U., Chaudhary U., Sivasubbu S., Scaria V., Wattal C., Oberoi J.K., Raveendran R., Datta S., Das S., Maitra A., Chinnaswamy S., Biswas N.K., Parida A., Raghav S.K., Prasad P., Sarin A., Mayor S., Ramakrishnan U., Palakodeti D., Seshasayee A.S.N., Thangaraj K., Bashyam M.D., Dalal A., Bhat M., Shouche Y., Pillai A., Abraham P., Potdar V.A., Cherian S.S., Desai A.S., Pattabiraman C., Manjunatha M.V., Mani R.S., Udupi G.A., **Nandicoori V.K.**, Tallapaka K.B., Sowpati D.T., [Indian SARS-CoV-2 Genomics Consortium (INSACOG)] Singh S., Rakshit P., Agrawal A., Illingworth C.J.R. & Gupta R.K. (2022) Transmission of B.1.617.2 Delta variant between vaccinated healthcare workers. **Sci. Rep.** 12(1): 10492. doi: 10.1038/s41598-022-14411-7
11. Kumar, S., Khan, M.Z., Khandelwal, N., Chongtham, C., Singha, B., Dabla, A., Behera, D., Singh, A., Gopal, B., Arimbasseri, A., Kamat, S.S. & **Nandicoori, V.K.*** (2022) *Mycobacterium tuberculosis* transcription factor, EmbR regulates the expression of key virulence factors that aid in *ex vivo* and *in vivo* survival. **mbio** 13(3): e0383621. doi: 10.1128/mbio.03836-21. Epub 2022 Apr 26.
12. Gupta, S., Mishra, D.K., Khan, M.Z., Saini, V., Mehta, D., Kumar, S., Yadav, A., Mitra, M., Rani, P., Singh, M., Nandi, C.K., Das, P., Ahuja, V., **Nandicoori, V.K.** & Bajaj, A. (2022) Development of a highly specific, selective, and sensitive fluorescent probe for detection of mycobacteria in human tissues. **Adv Healthc Mater.** e2102640. doi: 10.1002/adhm.202102640
13. Salini, S., Bhat, S.G., Naz, S., Natesh, R., Kumar, R. A., **Nandicoori, V.K.** & Kurthkoti (2022) The error-prone polymerase DnaE2 mediates the evolution of antibiotic resistance in persister mycobacterial cells. **Antimicrob Agents Chemother.** AAC0177321. doi: 10.1128/AAC.01773-21
14. Pal, S., Soni, V., Kumar, S., Jha, S.K., Medatwal, N., Rana, K., Yadav, P., Mehta, D., Jain, D., Sharma, P., Kar, R., Srivastava, A., Patil, V.S., Dasgupta, U., **Nandicoori, V.K.**, Bajaj, A (2021) A hydrogel-based implantable multidrug antitubercular formulation outperforms oral delivery. **Nanoscale** 13, 13225-30 doi: 10.1039/d0nr08806d.
15. Dhar MS, Marwal R, Vs R, Ponnusamy K, Jolly B, Bhoyar RC, Sardana V, Naushin S, Rophina M, Mellan TA, Mishra S, Whittaker C, Fatihi S, Datta M, Singh P, Sharma U, Ujjainiya R, Bhatheja N, Divakar MK, Singh MK, Imran M, Senthivel V, Maurya R, Jha N, Mehta P, A V, Sharma P, Vr A, Chaudhary U, Soni N, Thukral L, Flaxman S, Bhatt S, Pandey R, Dash D, Faruq M, Lall H, Gogia H, Madan P, Kulkarni S, Chauhan H, Sengupta S, Kabra S; Indian SARS-CoV-2 Genomics Consortium (INSACOG)‡, Gupta RK, Singh SK, Agrawal A, Rakshit P, **Nandicoori**

- V. Tallapaka KB, Sowpati DT, Thangaraj K, Bashyam MD, Dalal A, Sivasubbu S, Scaria V, Parida A, Raghav SK, Prasad P, Sarin A, Mayor S, Ramakrishnan U, Palakodeti D, Seshasayee ASN, Bhat M, Shouche Y, Pillai A, Dikid T, Das S, Maitra A, Chinnaswamy S, Biswas NK, Desai AS, Pattabiraman C, Manjunatha MV, Mani RS, Arunachal Udupi G, Abraham P, Atul PV, Cherian SS. (2021) Genomic characterization and epidemiology of an emerging SARS-CoV-2 variant in Delhi, India. *Science*. 2021 Nov 19;374(6570):995-999. doi: 10.1126/science.abj9932. Epub 2021 Oct 14.
16. Mlcochova P, Kemp S, Dhar MS, Papa G, Meng B, Ferreira IATM, Datir R, Collier DA, Albecka A, Singh S, Pandey R, Brown J, Zhou J, Goonawardane N, Mishra S, Whittaker C, Mellan T, Marwal R, Datta M, Sengupta S, Ponnusamy K, Radhakrishnan VS, Abdullahi A, Charles O, Chattopadhyay P, Devi P, Caputo D, Peacock T, Wattal DC, Goel N, Satwik A, Vaishya R, Agarwal M; Indian SARS-CoV-2 Genomics Consortium (**INSACOG**); Genotype to Phenotype Japan (G2P-Japan) Consortium; CITIID-NIHR BioResource COVID-19 Collaboration, Mavousian A, Lee JH, Bassi J, Silacci-Fegni C, Saliba C, Pinto D, Irie T, Yoshida I, Hamilton WL, Sato K, Bhatt S, Flaxman S, James LC, Corti D, Piccoli L, Barclay WS, Rakshit P, Agrawal A, Gupta RK. (2021) SARS-CoV-2 B.1.617.2 Delta Variant replication and immune evasion. *Nature*, doi: 10.1038/s41586-021-03944-y.
 17. Khan, M., Singha, B., Ali, F., Taunk, K., Rapole, S., Gourinath, S., & **Nandicoori, V.K.*** (2021) Redox homeostasis in *Mycobacterium tuberculosis* is modulated by a novel actinomycetes-specific transcription factor. *EMBO J* **40**, e106111.
Work highlighted in
<https://biopatrika.com/2021/10/11/interview-understanding-how-mycobacterium-tuberculosis-tackles-oxidative-stress-in-the-host-2/>
<https://scisoup.org/article/2021/newer-insights-into-an-age-old-bacteria.html>
 18. Agarwal, M. K., Soni, V. K., Kumar, S., Singha, B. & **Nandicoori, V.K.*** (2021) Unique C-terminal extension and interactome of *Mycobacterium tuberculosis* GlmU impacts its in vivo function and the survival of the pathogen. *Biochem J* **478**, 2081-2099 doi: 10.1042/BCJ20210170.
 19. Naz, S., Dabral, S., Nagarajan, S., Arora, D., Singh, L.V., Kumar, P., Singh, D., Kumar, D., Varshney, U.* & **Nandicoori, V.K.*** (2021) Compromised base excision repair pathway in *Mycobacterium tuberculosis* imparts superior adaptability in the host. *Plos Pathogens* **17**:e1009452. doi: 10.1371/journal.ppat.1009452.
 20. Naz, S., Singh, Y. & **Nandicoori, V.K.*** (2021) Deletion of serine/threonine protein kinase pknL from *Mycobacterium tuberculosis* reduces the efficacy of isoniazid and ethambutol. *Tuberculosis*, 128:102066. doi: 10.1016/j.tube.2021.102066.
 21. Khan, M.Z. & **Nandicoori, V.K.*** (2021) Deletion of PknG abates reactivation of latent *Mycobacterium tuberculosis* in mice. *Antimicrob. Agents Chemother* doi: 10.1128/AAC.02095-20

22. Dubey, N., Khan, M.Z., Kumar, S., Sharma, A., Das, L., Bhaduri, A., Singh, Y. & **Nandicoori, V.K.*** (2021) *Mycobacterium tuberculosis* PPIA interacts with host integrin receptor to exacerbate disease progression. *J. Infect. Dis.* doi: 10.1093/infdis/jiab081
23. Singhal, A., Virmani, R., Naz, S., Arora, G., Gaur, M., Kundu, P., Sajid, A., Misra, R., Dabla, A., Kumar, S., Nellissery, J., Molle, V., Gerth, U., Swaroop, A., Sharma, A., **Nandicoori, V.K.*** & Singh, Y.* (2020) Methylation of two-component response regulator MtrA in mycobacteria negatively modulates its DNA binding and transcriptional activation. *Biochem J*, **477**, 4473-4489
24. Bhaskar, A., Kumar, S., Khan, M.Z., Singh, A., Dwivedi, V.P. & **Nandicoori, V.K.*** (2020) Host Sirtuin 2 as an Immunotherapeutic Target against Tuberculosis. *eLife* Jul 22;9:e55415. doi: 10.7554/eLife.55415
25. Lochab, S., Singh, Y., Sengupta, S. & **Nandicoori, V.K.*** (2020) *Mycobacterium tuberculosis* exploits host ATM kinase for survival advantage through SecA2 secretome. *eLife* Mar 30;9. pii: e51466. doi: 10.7554/eLife.51466.
Work highlighted in
<https://scisoup.org/article/2020/a-novel-adjunctive-host-directed-therapy-for-the-treatment-of-TB.html>
26. Kaur, P., Rausch, M., Malakar, B., Watson, U., Damle, N. P., Chawla, Y., Srinivasan, S., Sharma, K., Schneider, T., Jhingan, G. D., Saini, D., Mohanty, D., Grein, F & **Nandicoori, V. K.*** (2019) LipidII Interaction with specific residues of *Mycobacterium tuberculosis* PknB extracytoplasmic domain governs its optimal activation. *Nature Communications* **10**, 1231 doi: 10.1038/s41467-019-09223-9.
Among the 6 finalists for The Inspiring Science Award 2020 for the best published scientific paper in the Life Sciences from India.
27. Prasad, D., Arora, D., **Nandicoori, V. K.** & Muniyappa, K. (2019) Elucidating the functional role of *Mycobacterium smegmatis* recX in stress response. *Sci. Rep.* 10912. doi: 10.1038/s41598-019-47312.
28. Srivastava, S., Battu, M. B., Khan, M.Z., **Nandicoori, V.K.** & Mukhopadhyaya, S. (2019) *Mycobacterium tuberculosis* PPE2 protein interacts with p67^{phox} and inhibits ROS production. *J. Immunology*, **203**, 1218-1229.
29. Caterino, M., Somma, A.D., Soni, V., Agarwal, M., Pasquale, P.D., Zanetti, S., Mollicotti, P., Cannas, S., **Nandicoori, V.K.** & Duilio, A. (2019) The bifunctional protein GlmU is a key factor in biofilm formation induced by alkylating stress in *Mycobacterium smegmatis*. *Research in Microbiology* pii: S0923-2508(19)30034-8.

30. Sevalkar, R., Arora, D., Singh, P., Singh, R., Nandicoori, V.K., Karthikeyan, S. & Sarkar, D. (2019) Functioning of mycobacterial heat-shock repressors requires the master virulence regulator PhoP. *J. Bacteriol.* 201(12). pii: e00013-19
31. Yadav, K., Yavvari, P.S., Pal, S., Kumar, S., Mishra, D., Gupta, S., Mitra, M., Soni, V., Khare, n., Sharma, P., Srikanth, C.V., Kapil, A., Singh, A., Nandicoori, V.K. & Bajaj, A. (2019) Oral Delivery of Cholic Acid-Derived Amphiphiles Helps in Combating Salmonella-Mediated Gut Infection and Inflammation. *Bioconj. Chem.* doi: 10.1021/acs.bioconjchem.8b00880
32. Joshi, A.C., Kaur, P., Nair, R.K., Lele, D.S., Nandicoori, V.K. & Gopal, B. (2019) Selectivity among anti sigma factors by *Mycobacterium tuberculosis* ClpX influences intracellular levels of extracytoplasmic functions sigma factors. *J. Bacteriol.* 201(6), pii: e00748-18. doi: 10.1128/JB.00748-18
33. Misra, R., Menon, D., Arora, G., Virmani, R., Gaur, M., Naz, S., Jaisinghani, N., Bhaduri, A., Bothra, A., Maji, A., Singhal, A., Karwal, P., Hentscher, C., Becher, D., Rao, V., Nandicoori, V.K., Gandotra, S., & Singh, Y. (2019) Tuning the *Mycobacterium tuberculosis* alternative sigma factor SigF through the multidomain regulator Rv1364c and osmosensory kinase, protein kinase D. *J Bacteriol.* 201(7) pii e00725-18. doi: 10.1128/JB.00725-18.
34. Jain, P., Malakar, B., Khan, M.Z., Lochab, S., Singh, A. & Nandicoori, V. K. (2018) Delineating FtsQ mediated regulation of cell division in *Mycobacterium tuberculosis*. *J. Biol. Chem.* 293(32):12331-12349.
Work highlighted in multiple forums:
https://vigyanprasar.gov.in/isw/find_protein_role_in_TB_bacteria_growth_story.html
35. Khan, M.Z., Kaur, P. & Nandicoori, V. K. (2018) Targeting the Messengers: Serine/Threonine Protein Kinases as Potential Targets for Antimycobacterial Drug Development. *IUBMB life*, 70, 889-904.
36. Arora, D., Chawla, Y., Malakar, B., Singh, A. & Nandicoori, V.K. (2018) The transpeptidase PbpA and non-canonical transglycosylase RodA of *Mycobacterium tuberculosis* play important roles in regulating bacterial cell lengths. *J. Biol. Chem.* 293, 6497-6516.
37. Khan, M.Z., Bhaskar, A., Upadhyay, S., Kumari, P., Ramani, R.S., Jain, P., Singh, A., Kumar, D., Bhavesh, N.S. & Nandicoori, V. K. (2017) Protein kinase G confers survival advantage to *Mycobacterium tuberculosis*. *J. Biol. Chem.* 292, 16093-16108.
38. Muniyan, R., Varatharajan, S., Naz, S., Nandicoori, V.K. & Jayaramn, G. (2017) *Alium Sativum* Linn contains linear alkylbenzene sulfonates that alter membrane fluidity for the inhibition of *Mycobacterium tuberculosis* H37Ra. *Asian J Pharm Clin Res*, 10, 100-111.

39. Yuvvari, P.S., Gupta, S., Arora, D., Nandicoori, V.K., Srivastava, A. & Bajaj, A. (2017) Clathrin Independent Killing of Intracellular Mycobacteria and Biofilm Disruptions using Synthetic Antimicrobial Polymers. *Biomacromolecules*, **18**, 2024-2033.
40. Sharma, A. K., Arora, D., Singh, L.K., Gangwal, A., Sajid, A., Molle, V., Singh, Y. & Nandicoori, V. K. (2016) Serine/threonine protein phosphatase PstP of *Mycobacterium tuberculosis* is necessary for accurate cell division and survival of pathogen. *J. Biol. Chem.* **291**, 24215-24230
41. Jhingan, G. D., Kumari, S., Jamwal, S. V., Kalam, H., Arora, D., Jain, N., Kirshnakumar, L., Samal, A., Rao, K. V. S., Kumar, D. & Nandicoori, V. K. (2016) Comparative proteomic analyses of avirulent, virulent and clinical strains of *M. tuberculosis* identifies strain-specific patterns. *J. Biol. Chem.* **291**, 14257-73
42. Sharma, G., Sowpati, D. T., Singh, P., Khan, M. Z., Ganji, R., Upadhyay, S., Banerjee, S., Nandicoori, V.K. & Khosla, S (2016) Genome-wide non-CpG methylation of the host genome during *M. tuberculosis* infection. *Scientific Reports*, **6**, 25006.
43. Suryadevara, P., Yogeeswari, P., Soni, V., Devi, P. B., Nandicoori, V. K. & Sriram, D. (2016) Computational Sampling and Simulation Based Assessment of Novel *Mycobacterium tuberculosis* Glutamine Synthetase inhibitors: Study involving structure based drug design and free energy perturbation. *Curr. Top. Med. Chem.* **16**, 978-95.
44. Soni, V., Upadhyay, S., Suryadevara, P., Samla, G., Singh, A., Yogeeswari, P., Sriram, D. & Nandicoori, V. K. (2015) Depletion of *M. tuberculosis* GlmU from infected murine lungs effects the clearance of the pathogen. *Plos Pathogens* **11**, e1005235.
Among the 6 finalists for The Inspiring Science Award 2017 for the best published scientific paper in the Life Sciences from India.
45. Nagarajan, S. N., Upadhyay, S., Chawla, Y., Khan, S., Naz, S., Subramanian, J., Gandotra, S. & Nandicoori, V. K. (2015) Protein kinase A (PknA) of *Mycobacterium tuberculosis* is independently activated and is critical for growth in vitro and survival of the pathogen in the host. *J Biol Chem.* **290**, 9626-9645.
46. Yaseen, I., Kaur, P., Nandicoori, V. K. & Khosla, S. (2015) Mycobacteria modulate host epigenetic machinery by Rv1988 methylation of a non-tail arginine of histone H3. *Nature Communications*, **6**, 8922.
47. Soni, V., Suryadevara, P., Dharmarajan, S., Kumar, S., OSDD consortium, Nandicoori, V.K. & Yogeeswari, P. (2015) Structure-based design of diverse inhibitors of Mycobacterium tuberculosis N-acetylglucosamine-1-phosphate uridyltransferase: combined molecular docking, dynamic simulation and biological activity. *J of Mol. Mod.* **21**, 174.

48. Sharma, G., Upadhyay, S., Srilalitha, M., Nandicoori, V. K. & Khosla, S. (2015) The interaction of mycobacterial protein Rv2966c with host chromatin is mediated through non-CpG methylation and Histone H3/H4 binding. *Nucleic Acids Res.* **43**, 3922-37.
49. Rajanala, K., Sarkar, A., Jhingan, G. D., Priyadarshini, R., Jalan, M., Sengupta, S. & Nandicoori, V. K. (2014) Phosphorylation of nucleoporin Tpr governs its differential localization and is required for its mitotic function. *J Cell Science.* **127**, 3505-3520.
50. Chawla, Y., Upadhyay, S., Khan, S., Nagarajan, S. N., Forti, F. & Nandicoori, V.K. (2014) Protein Kinase B (PknB) of *Mycobacterium tuberculosis* is essential for growth of the pathogen *in vitro* as well as for survival within the host. *J Biol Chem.* **289**, 13858 – 13875.
51. Parikh, A., Kumar, D., Chawla, Y., Kurthkoti, K., Khan, S., Varshney, U. & Nandicoori, V. K. (2013) Development of new generation of vectors for gene expression, gene replacement, and protein-protein interaction studies in mycobacteria. *Appl Environ Microbiol.* **79**, 1718-1729.
52. Singhal, A., Arora, G., Sajid, A., Maji, A., Bhat, A., Virmani, R., Upadhyay, S., Nandicoori, V.K., Sengupta, S. & Singh Y. (2013) Regulation of homocysteine metabolism by *Mycobacterium tuberculosis* S-adenosylhomocysteine hydrolase. *Sci Rep.* **3**, 2264.
53. Jagtap, P. K. A., Soni, V., Vithani, N., Jhingan, G.D., Bais, V. S., Nandicoori, V. K. & Prakash, B. (2012) Substrate bound crystal structure reveals feature unique to *Mycobacterium tuberculosis* N-acetyl glucosamine-1-phosphate uridylyltransferase and a catalytic mechanism for acetyltransfer. *J. Biol. Chem.* **287**, 39524-37.
54. Rajanala, K. & Nandicoori, V.K. (2012) Localization of nucleoporin Tpr to the nuclear pore complex is essential for Tpr mediated regulation of the export of unspliced RNA. *Plos One* **7**, e29921.
55. Chakraborti, P.K., Matange, N., Nandicoori, V. K., Singh, Y., Tyagi, J.S. & Visweswariah, S.S. (2011) Signalling mechanisms in Mycobacteria" has been accepted for publication in *Tuberculosis*. *Tuberculosis*, **91**, 432-440 (Review).
56. Sajid, A., Arora, G., Gupta, M., Singhal, A., Chakraborty, K. Nandicoori, V. K. & Singh, Y. (2011) Interaction of Mycobacterium tuberculosis Elongation Factor Tu with GTP is regulated by phosphorylation. *J. Bacteriology*, **93**, 5347-5358.
57. Sajid, A., Arora, G., Gupta, M., Upadhyay, S., Nandicoori, V. K. & Singh, Y. (2011) Phosphorylation of Mycobacterium tuberculosis Ser/Thr Phosphatase by PknA and PknB *Plos One* **6**(3): e17871.

58. Khan, S., Nagarajan, S. N, Parikh, A., Samantaray, S., Singh, A., Kumar, D., Roy, R.P., Bhatt, A. & **Nandicoori, V.K.** (2010) Phosphorylation of enoyl-ACP reductase InhA impacts mycobacterial growth and survival. *J. Biol. Chem.* 285, 37860-37871.
59. Tiwari, D., Singh, R. K., Goswami, K., Verma, S. K., Prakash, B. & **Nandicoori, V. K.** (2009) Key residues in Mycobacterium tuberculosis protein kinase G play a role in regulating kinase activity and survival in the host. *J Biol. Chem.* 284, 27467-27479.
60. Kumar, P., Kumar, D., Parikh, A., Rananaware, D., Gupta, M., Singh, Y. & **Nandicoori, V. K.** (2009) The Mycobacterium tuberculosis protein kinase K modulates activation of transcription from the promoter of mycobacterial monooxygenase operon through phosphorylation of transcriptional regulator VirS. *J. Biol. Chem.* 284, 11090-11099.
61. Parikh, A., Verma, S.K. Khan,S., Prakash, B. & **Nandicoori, V. K.** (2009) PknB-mediated phosphorylation of novel substrate, N-Acetylglucosamine-1-Phosphate Uridyltransferase, modulates its acetyltransferase activity. *J. Mol. Biol.* 386, 451-464.
62. Sajish, M., Kalayil, S., Verma, S. K., **Nandicoori, V. K.** & Prakash, B. (2009) The significance of ExDD and RxKD motif conservation in Rel proteins. *J. Biol. Chem* 284, 9115-9123
63. Verma, S. K., Jaiswal, M., Kumar, N., Parikh, A., **Nandicoori, V. K.** & Prakash, B. (2009) Crystal structure of N-acetylglucosamine-1-phosphate uridyltransferase (GlmU) from Mycobacterium tuberculosis in a cubic space group. *Acta Crystallogr Sect F Struct Biol Cryst Commun.* 65, 435-9.
64. Vomastek, T., Iwanicki, M. P., Burack, W. R., Tiwari, D., Kumar, D., Parsons, J. T., Weber, M. J. & **Nandicoori, V. K.** (2008) ERK2 phosphorylation sites and docking domain on the Nuclear Pore Complex protein Tpr cooperatively regulates ERK2-Tpr interaction. *Mol. Cell Biol.* 22, 6954-6966.
65. Sajish, M., Tiwari, D., Rananaware, D., **Nandicoori, V. K.** and Prakash, B. (2007) A Charge Reversal Differentiates (p)ppGpp Synthesis by Monofunctional and Bifunctional Rel Proteins. *J. Biol. Chem.* 282, 34977-83.
66. Samantaray, S., Marathe, U., Dasgupta, S., **Nandicoori, V. K.** & Roy, R. P. (2008) Peptide-sugar ligation catalyzed by transpeptidase sortase: a facile approach to neoglycoconjugate synthesis. *J Am Chem Soc.* 130, 2132-3.
67. Eblen, S. T., **Kumar, N.V.** & Weber, M. J. (2007) Using genetically engineered kinases to screen for novel protein kinase substrates: Phosphorylation of substrates in cell lysates with exogenous kinase. CSH Protoc. doi: 10.1101/pdb.prot4639.

68. Eblen, S. T., **Kumar, N.V.** & Weber, M. J. (2007) Using genetically engineered kinases to screen for novel protein kinase substrates: Phosphorylation kinase-associated substrates. CSH Protoc. doi: 10.1101/pdb.prot4638.
69. Eblen, S. T., **Kumar, N.V.** & Weber, M. J. (2007) Using genetically engineered kinases to screen for novel protein kinase substrates: Generation of [γ 32P]ATP analog from ADP analog. CSH Protoc. doi: 10.1101/pdb.prot4637.
70. Eblen, S. T., **Kumar, N.V.** & Weber, M. J. (2007) Using genetically engineered kinases to screen for novel protein kinase substrates: Identification of a Mutant Kinase/ATP analog pair. CSH Protoc. doi: 10.1101/pdb.prot4636.
71. **Kumar, N.V.**§, Eblen, S.T.§ & Weber, M. J. (2004) Identifying specific kinase substrates through engineered kinases and ATP analogs. *Methods* 32, 389-397.
§ co-first authors
72. Eblen, S.T.§, **Kumar, N.V.**§, Shah, K., Henderson, M. J., Watts, C. K. W., Shokat, K. M. and Weber, M. J. (2003) Identification of novel ERK2 substrates through use of an engineered kinase and ATP analogs. *J. Biol. Chem.* 278, 14926-14935.
§ co-first authors
73. **Kumar, N.V.** and Bernstein, L. R. (2001) A new analytical scale DNA affinity binding assay for analyses of specific protein DNA interactions. *Anal. Biochem.* 299, 203-210.
74. **Kumar, N.V.** and Bernstein, L. R. (2001) Ten ERK-related proteins in three distinct classes associate with AP-1 proteins and/or AP-1 DNA. *J. Biol. Chem.* 276, 32362-32372.
75. **Kumar, N.V.** and Bernstein, L. R. (2000) Screening of a cDNA protein expression library by enhanced chemiluminescence detection. *Biotechniques* 29, 418-424.
76. Thanedar, S. S., **Kumar, N.V.** and Varshey, U. (2000) Fate of tRNA of the initiator is sensitive to the critical balance between interacting proteins. *J. Biol. Chem.* 275, 20361-20367.
77. Ghosh, M., **Kumar, N.V.**, Varshney, U. and Chary, K. V. R. (2000) Structural basis for uracil DNA glycosylase interaction with uracil: NMR study. *Nucleic Acids Res.* 28, 1906-1912.
78. Ghosh, M., **Kumar, N.V.**, Varshney, U. and Chary, K. V. R. (1999) Structural characterisation of a uracil containing hairpin DNA by NMR and molecular dynamics. *Nucleic Acids Res.* 27, 3938-3944.
79. **Kumar, N.V.** and Varshney, U. (1997) Contrasting effects of single stranded DNA binding protein on the activity of uracil DNA glycosylase from *Escherichia coli* towards different DNA substrates. *Nucleic Acids Res.* 25, 2336-2343.

80. Vasanthkrishna, M., Kumar, N.V. and Varshney, U. (1997) Characterization of the initiator tRNA gene locus and identification of a strong promoter from Mycobacterium tuberculosis. Microbiology. 143, 3591-3598.
81. Mandal, S.S., Kumar, N.V., Varshney, U. and Bhattacharya, S. (1996) Metal ion dependent oxidative cleavage by transition metal complexes of a new water soluble salen derivative. J. Inorg. Biochem. 63, 265-272.
82. Li, S., Kumar, N.V., Varshney, U. and RajBhandary, U.L. (1996) Role of amino acids attached to tRNA in formylation and in initiation of protein synthesis. J. Biol. Chem. 271, 1022-1028.
83. Kumar, N.V. and Varshney, U. (1994) Inefficient excision of uracil from loop regions of DNA oligomers by E. coli uracil DNA glycosylase. Nucleic Acids Res. 22, 3737-3741.
84. Kumar, N.V. and Varshney, U. (1994) Excision of Uracil from the ends of double stranded DNA by uracil DNA glycosylase and its use in high efficiency cloning of PCR products. Current Science. 67, 728-734

Book Chapters:

1. Eblen, S.T.[§], Kumar, N. V.[§] & Weber, M. J. (2005) Using genetically engineered kinases to screen for novel protein kinase substrates. *Protein-Protein Interactions, A Molecular Cloning Manual, 2nd edition* Ed. Golemis, E & Adams, P. Cold Spring Harbor laboratory press. **§ co-first authors**
2. Bhaskar, A., Dwivedi, V.P., Nandicoori, V. K. (2019) Eliminating mycobacterial persistence: Novel targets for anti-TB therapy. *Pathogenicity and Drug resistance of Human Pathogens. Mechanisms and Novel approaches. Springer Press.*

Patent:

Indian patent; Status: Filed; File No:3167/DEU2015; Applied on: 1st October 2015

Title: Depletion of *M. tuberculosis* (*M. tuberculosis*) GlmU from infected murine lungs effects the clearance of the pathogen

Authors: Vinay K Nandicoori, Vijay Soni, Perumal Yogeeswari and Dharamarajan Sriram.

We have developed a novel inhibitor Oxa33, which targets M. tuberculosis GlmU and inhibits the growth of M. tuberculosis both in vitro culture as well in the animal models.