

Scientist Profile

Name	Dr. N. Pavan Kumar
Designation	Scientist 'C'
Date of Birth	31/08/1984
Date of Joining	20/04/2020
Date of joining present post	20/04/2020
Discipline	Immunology
Address (off.)	No.1, Mayor Sathiyamoorthy Road, Chetpet, Chennai-600031
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Educational Qualifications

SN	Qualification	Institute	University/Board	Year
1	B.Sc. (Biochemistry)	Jaya College of Arts and Science, Chennai	University of Madras	2005
2	M.Sc. (Medical Laboratory Technology)	Loyola College, Chennai	University of Madras	2007
3	Ph.D. (Immunology)	ICMR-National Institute for Research in Tuberculosis	University of Madras	2014

Research Experience

1. **Principle investigator** - "Characterization of Monocyte Responses In Pulmonary TB Patients With or Without Type 2 Diabetes"
2. **Principle investigator** - "Characterization of immune responses drug resistant pulmonary tuberculosis"
3. **Co-Principle investigator** - "Systems biology and immunology of the effect of tuberculosis chemoprophylaxis in HIV infection"
4. **Co-Principle investigator** - "The Regional Prospective Observational Research for Tuberculosis (RePORT) India Phase II Common Protocol"
5. **Co-Principle investigator** - "Studying T cell memory responses for understanding protective immune response in Tuberculosis (TB)"
6. **Lab Manager** - "Effect of diabetes on tuberculosis severity (EDOTS)"
7. **Lab Manager** - "Impact of Immune Changes in pregnancy on tuberculosis in HIV infected and uninfected women"
8. **Lab Manager** - "Impact of Immune changes in paediatric tuberculosis"
9. **Lab Manager** - "A phase IIB Open Label Randomized trial to evaluate the anti-bacterial activity, pharmacokinetics, safety and tolerability of Metformin when given with rifampicin, isoniazid, pyrazinamide and ethambutol in adults with newly diagnosed sputum positive pulmonary tuberculosis: an 8-week study"
10. **Senior Research Fellow** - "Characterisation of T cell Immune responses in pulmonary and extra-pulmonary tuberculosis with other co-morbidities"
11. **Research Assistant** - Worked on Characterizing the Immune Responses to Pediatric Tuberculosis and Lymphatic Filarial infections.

Honors and Awards

- **2009** – Awarded best poster presented in “36th Annual meeting of Indian immunology society”, NIMHANS, Bangalore, INDIA.
- **2011** – Awarded “The Global Health Travel Award” funded by Bill and Melinda Gates Foundation, for attending Keystone Symposia “Tuberculosis: Immunology Cell Biology and Novel Vaccination Strategies” Vancouver, British Columbia, CANADA.
- **2013** - Awarded “The Global Health Travel Award” funded by Bill and Melinda Gates Foundation, for attending Keystone Symposia “Novel Therapeutic approaches to tuberculosis” Denver, Colorado, USA
- **2016** - Awarded “The Global Health Travel Award” funded by Bill and Melinda Gates Foundation, for attending Keystone Symposia “New Developments in Our Basic Understanding of Tuberculosis” Vancouver, British Columbia, CANADA
- **2017**- Awarded Science & Engineering Research Board (SERB) National Post-Doctoral Fellowship for the period of Two years (May 2017 to April 2019)

Publication as corresponding author in indexed journals

1. **Nathella Pavan Kumar**, Kadar Moideen, Arul Nancy, Vijay Viswanathan, Basavaradhya S. Shruthi, Sivakumar Shanmugam, Syed Hissar, Hardy Kornfeld and Subash Babu **(2019)** “Plasma Eicosanoid Levels In Tuberculosis And Tuberculosis-Diabetes Co-morbidity Are Associated With Lung Pathology And Bacterial Burden” **Frontiers in Cellular and Infection Microbiology**. 01 October 2019.
2. **Nathella Pavan Kumar**, Kadar Moideen, Arul Nancy, Vijay Viswanathan, Basavaradhya S. Shruthi , Sivakumar Shanmugam, Syed Hissar, Hardy Kornfeld and Subash Babu **(2019)** “Systemic RAGE ligands are upregulated in tuberculosis individuals with diabetes co-morbidity and modulated by anti-tuberculosis treatment and metformin therapy” Accepted in **BMC Infect Dis**. November 2019.
3. **Nathella Pavan Kumar**, Kadar Moideen, Sivakumar Shanmugam, Mohan Natarajan, Vijay Viswanathan, Hardy Kornfeld and Subash Babu **(2018)** “Elevated circulating levels of monocyte activation markers among tuberculosis patients with diabetes co-morbidity” **Immunology**. 2018 Nov 14.
4. **Nathella Pavan Kumar**, Kadar Moideen, Sivakumar Shanmugam, Pradeep A Menon, Vijay Viswanathan, Hardy Kornfeld and Subash Babu **(2018)** “Elevated levels of matrix metalloproteinases reflect severity and extent of disease in tuberculosis-diabetes co-morbidity and are predominantly reversed following standard anti-tuberculosis or metformin treatment” **BMC Infect Dis**. 2018 Jul 25;18(1):345.
5. **Nathella Pavan Kumar**, Banurekha VV, Dina Nair, Subash Babu **(2018)** “Modulation of Th1/Tc1 and Th17/Tc17 responses in pulmonary tuberculosis by IL-20 subfamily of cytokines” **Cytokine**. 2018 Aug;108:190-196.
6. **Nathella Pavan Kumar**, Banurekha VV, Dina Nair, Subash Babu **(2018)** “Modulation of iron status biomarkers in tuberculosis-diabetes co-morbidity”. **Tuberculosis (Edinb)**. 2018 Jan;108:127-135.
7. **Nathella Pavan Kumar**, Banurekha VV, Dina Nair, Subash Babu **(2017)** “Diminished plasma levels of common γ -chain cytokines in pulmonary tuberculosis and reversal following treatment” **PLoS One**. 2017 Apr 27;12(4):e0176495.
8. **Nathella Pavan Kumar**, Banurekha VV, Dina Nair, Subash Babu **(2016)** “Angiopoietins as biomarkers of disease severity and bacterial burden in pulmonary tuberculosis.” **Int J Tuberc Lung Dis**. 2017 Jan 1;21(1):93-99. doi: 10.5588/ijtld.16.0565. **Impact Factor : 2.147**; Indexed in Pubmed

9. **Nathella Pavan Kumar**, Kadar Moideen, Sivakumar Shanmugam, Pradeep A Menon, Vijay Viswanathan, Hardy Kornfeld and Subash Babu (2016) "Modulation of dendritic cell and monocyte subsets in tuberculosis-diabetes co-morbidity upon standard tuberculosis treatment" **Tuberculosis** (Edinb). 2016 Dec;101:191-200. doi: 10.1016/j.tube.2016.10.004. **Impact Factor: 2.71**; Indexed in Pubmed
10. **Nathella Pavan Kumar**, Rathinam Sridhar, Luke Elizabeth Hanna, Vaithilingam V. Banurekha, Mohideen S. Jawahar, Thomas B. Nutman and Subash Babu. (2014) "Altered CD8+ T cell frequency and function in tuberculous lymphadenitis" **Tuberculosis** 09/2014; 94(5). DOI:10.1016/j.tube.2014.06.007.
11. **Nathella Pavan Kumar**, Dina Nair, Banurekha VV, Chandrakumar Dolla, Paul Kumaran, Sridhar, Subash Babu (2016) "Type 2 diabetes mellitus coincident with pulmonary or latent tuberculosis results in modulation of adipocytokines" **Cytokine**, 2016 Mar;79:74-81. doi: 10.1016/j.cyto.2015.12.026. **Impact Factor : 2.717**; Indexed in Pubmed
12. **Nathella Pavan Kumar**, Rathinam Sridhar, Vaithilingam V Banurekha, Mohideen S Jawahar, Thomas B Nutman, Subash Babu. (2014) "Role of myeloid derived suppressor cells in tuberculosis infection and disease" **BMC Infectious Diseases** 05/2014; 14(Suppl 3):O18-O18. DOI:10.1186/1471-2334-14-S3-O18

Publication as First Author in indexed journals

1. **Nathella Pavan Kumar**, Gokul R. Kathamuthu, Kadar Moideen , Vaithilingam V Banurekha , Dina Nair , Michael P. Fay , Thomas B. Nutman and Subash Babu. (2020). "Strongyloides stercoralis coinfection is associated with greater disease severity, higher bacterial burden and elevated plasma matrix metalloproteinases in pulmonary tuberculosis [published online ahead of print, 2020 Apr 20]. **J Infect Dis**. 2020;jiaa194. doi:10.1093/infdis/jiaa194
2. **Nathella Pavan Kumar** Fukutani, K. F., Shruthi, B. S., Alves, T., Silveira-Mattos, P. S., Rocha, M. S., Kornfeld, H. (2019). "Persistent inflammation during anti-tuberculosis treatment with diabetes comorbidity". **ELife**, 8, 1–19.
3. **Nathella Pavan Kumar**, Kadar Moideen, Arul Nancy, Vijay Viswanathan, Basavaradhya S. Shruthi, Sivakumar Shanmugam, Mohan Natarajan, Hardy Kornfeld and Subash Babu (2019) "Plasma chemokines are biomarkers of disease severity, higher bacterial burden and delayed sputum culture conversion in pulmonary tuberculosis. **Scientific Reports**. 2019 Dec 3;9(1):18217
4. **Nathella Pavan Kumar**, Kadar Moideen, Arul Nancy, Vijay Viswanathan, Basavaradhya S. Shruthi , Sivakumar Shanmugam, Syed Hissar, Hardy Kornfeld and Subash Babu (2019) "Heterogeneity in the cytokine profile of tuberculosis – diabetes co-morbidity. **Cytokine**, 125(August 2019),
5. **Nathella Pavan Kumar**, Kadar Moideen, Vaithilingam V. Banurekha, Dina Nair and Subash Babu (2019) "Plasma pro-inflammatory cytokines are markers of disease severity and bacterial burden in pulmonary tuberculosis" **Open Forum Infectious Diseases**. May 2019.
6. Victor V.S Albuquerque, **Nathella Pavan Kumar**, Kiyoshi F. Fukutani, Beatriz Vasconcelos, Maria B. Arriaga, Paulo S. Silveira-Maatos, Subash Babu and Bruno B. Andrade (2019)" Plasma levels of C-reactive protein, matrix metalloproteinase-7 and lipopolysaccharide-binding protein distinguish active pulmonary or extrapulmonary tuberculosis from uninfected controls in children" **Cytokine**, 123 (August 2019), (*Authors Victor V.S Albuquerque and Pavan Kumar N contributed equally to the work*)
7. **Nathella Pavan Kumar** and Subash Babu (2017) " Influence of diabetes mellitus on immunity to human tuberculosis" **Immunology**. 2017 Sep;152(1):13-24.
8. **Nathella Pavan Kumar**, Kadar Moideen, Sivakumar Shanmugam, Pradeep A Menon, Vijay Viswanathan, Hardy Kornfeld and Subash Babu (2017) "Heightened circulating levels of antimicrobial peptides in tuberculosis-Diabetes co-morbidity and reversal upon treatment" **PLoS One**. 2017 Sep 14;12(9):e0184753.

9. **Nathella Pavan Kumar**, Kadar Moideen, Dolla C, Kumaran P, Subash Babu (2017) "Prediabetes is associated with the modulation of antigen-specific Th1/Tc1 and Th17/Tc17 responses in latent Mycobacterium tuberculosis infection" **PLoS One**. 2017 May 30;12(5):e0178000.
10. Prada-Medina CA, Fukutani KF, **Pavan Kumar N**, Gil-Santana L, Babu S, Lichtenstein F, West K, Sivakumar S, Menon PA, Viswanathan V, Andrade BB, Nakaya HI, Kornfeld H. (2017) "Systems Immunology of Diabetes-Tuberculosis Comorbidity Reveals Signatures of Disease Complications. **Nature Scientific Reports** 2017 May 17;7(1):1999. (Authors Prada-Medina CA, Fukutani KF, Pavan Kumar N contributed equally to the work)
11. **Nathella Pavan Kumar**, Kadar Moideen, Sivakumar Shanmugam, Pradeep A Menon, Vijay Viswanathan, Hardy Kornfeld and Subash Babu (2016) "Tuberculosis-diabetes co-morbidity is characterized by heightened systemic levels of circulating angiogenic factors" **Journal of Infection**, 2016 Oct 4. pii: S0163-4453(16)30246-8.
12. **Nathella Pavan Kumar**, Kadar Moideen, Vijay Viswanathan, Hardy Kornfeld and Subash Babu (2016) "Effect of standard tuberculosis treatment on naïve, memory and regulatory T-cell homeostasis in tuberculosis-diabetes co-morbidity" **Immunology**, doi:10.1111/imm.12632.
13. **Nathella Pavan Kumar**, Banurekha VV, Dina Nair, Subash Babu (2016) "Circulating Angiogenic Factors as Biomarkers of Disease Severity and Bacterial Burden in Pulmonary Tuberculosis" **Plos One** 2016 Jan 4;11(1):e0146318. doi: 10.1371/journal.pone.0146318.
14. **Nathella Pavan Kumar**, Kadar Moideen, Parakkal Jovvian George, Chandrakumar Dolla, Paul Kumaran, Subash Babu (2015) "Coincident diabetes mellitus modulates Th1-, Th2- and Th17-cell responses in latent tuberculosis in an IL-10- and TGF- β -dependent manner" **European Journal of Immunology** 10/2015; DOI:10.1002/eji.201545973.
15. **Nathella Pavan Kumar**, Kadar Moideen, Parakkal Jovvian George, Chandrakumar Dolla, Paul Kumaran, Subash Babu (2015) "Impaired cytokine but enhanced cytotoxic marker expression in Mycobacterium tuberculosis - induced CD8+ T cells in Type 2 diabetic individuals with latent tuberculosis" **The Journal of Infectious Diseases** 10/2015; DOI:10.1093/infdis/jiv484
16. **Nathella Pavan Kumar**, Vaithilingam V. Banurekha, Dina Nair, Paul Kumaran, Chandra Kumar Dolla, Subash Babu (2015) "Type 2 diabetes - Tuberculosis co-morbidity is associated with diminished circulating levels of IL-20 subfamily of cytokines" **Tuberculosis** 08/2015; DOI:10.1016/j.tube.2015.06.004.
17. **Nathella Pavan Kumar**, Kadar Moideen, Sharmila D Dhakshinraj, Vaithilingam V Banurekha, Dina Nair, Chandrakumar Dolla, Paul Kumaran, Subash Babu (2015) "Profiling leucocyte subsets in tuberculosis-diabetes co-morbidity" **Immunology** 06/2015; 146(2). DOI:10.1111/imm.12496.
18. **Nathella Pavan Kumar**, Kadar Moideen A, Vaithilingam V. Banurekha, Dina Nair, Rathinam Sridhar, Thomas B. Nutman and Subash Babu. (2015) "IL-27 and TGF β mediated expansion of Th1 and adaptive regulatory T cells expressing IL-10 correlates with bacterial burden and disease severity in pulmonary tuberculosis" **Immunity, Inflammation and Disease**. 06/2015; 3(3). DOI:10.1002/iid3.68;
19. **Nathella Pavan Kumar**, Vaithilingam V. Banurekha, Dina Nair, Rathinam Sridhar, Hardy Kornfeld, Thomas B. Nutman and Subash Babu. (2014) "Coincident pre-diabetes is associated with dysregulated cytokine responses in pulmonary tuberculosis" **PLoS ONE** 9(11):e112108.
20. **Nathella Pavan Kumar**, Parakkal Jovvian George, Paul Kumaran, Chandra Kumar Dolla, Thomas B. Nutman, and Subash Babu. (2014) "Diminished Systemic and Antigen-Specific Type 1, Type 17, and Other Proinflammatory Cytokines in Diabetic and Prediabetic Individuals With Latent Mycobacterium tuberculosis Infection" **Journal of Infectious Diseases** Advance Access published July 14.
21. **Nathella Pavan Kumar**, Rathinam Sridhar R, Luke Elizabeth Hanna, Vaithilingam V. Banurekha, Thomas B Nutman, Subash Babu. (2014) "Decreased Frequencies of Circulating CD4+ T Follicular Helper Cells

Associated with Diminished Plasma IL-21 in Active Pulmonary Tuberculosis” **PLoS ONE** 9(10):e111098.
Impact Factor : 3.23; Indexed in Pubmed, MEDLINE, Google Scholar, Scopus

22. Bruno B Andrade, **Nathella Pavan Kumar**, Rathinam Sridhar, Vaithilingam V. Banurekha, Mohideen S. Jawahar, Thomas B. Nutman, Alan Sher and Subash Babu. (2014) “Heightened plasma levels of Heme Oxygenase-1 and Tissue Inhibitor of Metalloproteinase-4 as well as elevated peripheral neutrophil counts are associated with tuberculosis-diabetes comorbidity” **Chest**. 2014 Jan 23. doi: 10.1378/Chest.13-1799. (Both the authors Andrade BB and Kumar NP contribute equally to the work)
23. **Nathella Pavan Kumar**, Rathinam Sridhar, Dina Nair, Vaithilingam V. Banurekha, Thomas B. Nutman and Subash Babu. (2014) “Type 2 diabetes mellitus is associated with altered CD8+ T and NK cell function in pulmonary tuberculosis” **Immunology** 11/2014; 144(4). DOI:10.1111/imm.12421.
24. **Nathella Pavan Kumar**, Venugopal Gopinath, Rathinam Sridhar, Luke E. Hanna, Vaithilingam V. Banurekha, Mohideen S. Jawahar, Thomas B. Nutman and Subash Babu. (2013) “IL-10 Dependent Suppression of Type 1, Type 2 and Type 17 Cytokines in Active Pulmonary Tuberculosis” **PLoS ONE** 8(3): e59572
25. **Nathella Pavan Kumar**, Rathinam Sridhar, Vaithilingam V. Banurekha, Dina Nair, Mohideen S. Jawahar, Thomas B. Nutman and Subash Babu. (2013) “Expansion of Pathogen-Specific Mono- and Multifunctional Th1 and Th17 Cells in Multi-Focal Tuberculous Lymphadenitis” **PLoS ONE** 8(2): e57123.
26. **Nathella Pavan Kumar**, Rathinam Sridhar, Vaithilingam V. Banurekha, Mohideen S. Jawahar, Thomas B. Nutman and Subash Babu. (2013) Expansion of Pathogen-Specific T-Helper 1 and T-Helper 17 Cells in Pulmonary Tuberculosis With Coincident Type 2 Diabetes Mellitus. **The Journal of Infectious Diseases** 05/2013; 208(5).
27. **Nathella Pavan Kumar**, Rathinam Sridhar, Vaithilingam V. Banurekha, Mohideen S. Jawahar, Thomas B. Nutman and Subash Babu. (2013) “Type 2 diabetes mellitus coincident with pulmonary tuberculosis is associated with heightened pro – inflammatory cytokines” **Annals of the American Thoracic Society** 08/2013; 10(5)
28. **Nathella Pavan Kumar**, R. Anuradha, Bruno B. Andrade, N. Suresh, R. Ganesh, Janani Shankar, V. Kumaraswami, Thomas B. Nutman and Subash Babu. (2013) “Circulating Biomarkers of Pulmonary and Extrapulmonary Tuberculosis in Children” **Clin. Vaccine Immunol.** 20(5): 704.
29. **Nathella Pavan Kumar**, R. Anuradha, R. Suresh, R. Ganesh, Janani Shankar, V. Kumaraswami, Thomas B. Nutman, and Subash Babu. (2011) “Suppressed Type 1, Type 2 and Type 17 cytokine responses in Active Tuberculosis in Children” **Clinical and Vaccine Immunology** CVI 03/2013; 20(5).
30. **Nathella Pavan Kumar**, Luke Elizabeth Hanna, MS Jawahar, VV Banu Rekha, R Sridhar, Thomas B Nutman, S Subash Babu (2011) Enhanced frequency of neutrophils and inflammatory monocytes and diminished numbers of T and B cells in active pulmonary tuberculosis. **BMC Infectious Diseases** 05/2012; 12(1).

Publication as Co-author in indexed journals

1. Kathamuthu GR, **Nathella Pavan Kumar**, Moideen K, Sridhar R, Babu S. (2019) “Diminished type 1 and type 17 cytokine expressing – Natural killer cell frequencies in tuberculous lymphadenitis” **Tuberculosis** 118 (2019).
2. Kadar Moideen, **Nathella Pavan Kumar** Ramalingam Bethunaickan, Banurekha VV, Dina Nair, Subash Babu (2019) “Heightened systemic levels of anti-inflammatory cytokines in pulmonary tuberculosis and alterations following anti-tuberculosis treatment” **Cytokine** 127 (2020),
3. Kadar Moideen, **Nathella Pavan Kumar** Dina Nair, Banurekha VV, Subash Babu (2018) “Altered Systemic Adipokine Levels in Pulmonary Tuberculosis and Changes following Treatment” **Am J Trop Med Hyg.** 2018 Oct;99(4):875-880.

4. Kathamuthu GR, **Nathella Pavan Kumar**, Moideen K, Baskaran D, Hissar S, Shrinivasa BM, Sridhar R, Babu S. (2018) "Diminished circulating plasma and elevated lymph node culture supernatant levels of IL-10 family cytokines in tuberculous lymphadenitis" **Cytokine**. 2018 Nov;111:511-517.
5. Shivakoti R, Gupte N, **Nathella Pavan Kumar**, Kulkarni V, Balasubramanian U, Bhosale R, Sambrey P, Kinikar A, Bharadwaj R, Patil S, Inamdar S, Suryavanshi N, Babu S, Bollinger RC, Gupta A. (2018) "Intestinal Barrier Dysfunction and Microbial Translocation in Human Immunodeficiency Virus-Infected Pregnant Women Are Associated With Preterm Birth. **Clinical Infectious Diseases**. 2018 Sep 14;67(7):1103-1109.
6. Anuradha R, Munisankar S, Bhootra Y, **Nathella Pavan Kumar**, Dolla C, Babu S. (2018) "Malnutrition is associated with diminished baseline and mycobacterial antigen - stimulated chemokine responses in latent tuberculosis infection. **Journal of Infection**. 2018 Nov;77(5):410-416. **J Infect**. 2018 Nov;77(5):410-416.
7. Kadar Moideen, **Nathella Pavan Kumar**, Dina Nair, Banurekha VV, Subash Babu (2018) "Heightened Systemic Levels of Neutrophil and Eosinophil Granular Proteins in Pulmonary Tuberculosis and Reversal following Treatment" **Infection and Immunity**. 2018 May 22;86(6). pii: e00008-18.
8. Satyanarayana Swamy Cheekatala, Deepak Tripathi, Sambasivan Venkatasubramanian, **Pavan kumar Nathella**, Subash Babu et al., (2016) "NK-CD11c+ Cell Crosstalk in Diabetes Enhances IL-6 Mediated Inflammation during *Mycobacterium tuberculosis* Infection" **Plos Pathogen**, 2016 Oct 26;12(10):e1005972.
9. Anuradha R, Munisankar S, Bhootra Y, **Nathella Pavan Kumar**, Dolla C, Kumaran P, Babu S. (2016) "Coexistent Malnutrition Is Associated with Perturbations in Systemic and Antigen-Specific Cytokine Responses in Latent Tuberculosis Infection. "**Clin Vaccine Immunol**. 2016 Apr 4;23(4):339-45. doi: 10.1128/CVI.00009-16. **Clin. Vaccine Immunol**. 20(5): 704.
10. Bruno B Andrade, **Nathella Pavan Kumar**, Eduardo P Amaral, Nicolas Riteau, Katrin D Mayer-Barber et al., (2015) "Heme Oxygenase-1 Regulation of Matrix Metalloproteinase-1 Expression Underlies Distinct Disease Profiles in Tuberculosis" **The Journal of Immunology** 08/2015; 195(6). DOI:10.4049/jimmunol.1500942.
11. Parakkal Jovvian George, **Nathella Pavan Kumar**, Jeeva Jaganathan, Chandrakumar Dolla, Paul Kumaran, Dina Nair, Vaithilingam V Banurekha, Kui Shen, Thomas B Nutman, Subash Babu (2015) "Modulation of pro- and anti-inflammatory cytokines in active and latent tuberculosis by coexistent *Strongyloides stercoralis* infection" **Tuberculosis** 11/2015; DOI:10.1016/j.tube.2015.09.009.
12. Haridoss Madhumitha, Viswanathan Mohan, **Nathella Pavan Kumar**, Rajendra Pradeepa, Subash Babu, Vivekanandhan Aravindhhan (2015) "Impaired toll-like receptor signalling in peripheral B cells from newly diagnosed type-2 diabetic subjects" **Cytokine** 05/2015; DOI:10.1016/j.cyto.2015.04.010.
13. André Kübler, Brian Luna, Christer Larsson, Nicole C Ammerman, Bruno B Andrade, Marlene Orandle, Kevin W Bock, Ziyue Xu, Ulas Bagci, Daniel J Molura, John Marshall, Jay Burns, Kathryn Winglee, Bintou Ahmadou Ahidjo, Laurene S Cheung, Mariah Klunk, Sanjay K Jain, **Nathella Pavan Kumar**, Subash Babu, Alan Sher, (2015) "Mycobacterium tuberculosis dysregulates MMP/TIMP balance to drive cavitation and unrestrained bacterial proliferation" **The Journal of Pathology** 02/2015; 235(3). I:10.1002/path.4432
14. Katrin D. Mayer-Barber , Bruno B. Andrade , Sandra D. Oland , Eduardo P. Amaral1,, Daniel L. Barber , Jacqueline Gonzales ,Steven C. Derrick , Ruiru Shi , **Nathella Pavan Kumar**, Wang Wei , Xing Yuan, Guolong Zhang , Ying Cai , Subash Babu, Marta Catalfamo, Andres M. Salazar, Laura E. Via , Clifton E. Barry III & Alan Sher. (2014) "Host-directed therapy of tuberculosis based on interleukin-1 and type I interferon crosstalk" **NATURE** 07/2014; 511(7507):99-103. DOI:10.1038/nature134899 9.
15. Jovvian George Parrakal, **Nathella Pavan Kumar**, Rathinam Sridhar R, Luke Elizabeth Hanna, Dina Nair, Vaithilingam V. Banurekha, Thomas B Nutman, Subash Babu (2014) "Coincident helminth infection modulates systemic inflammation and immune activation in active pulmonary tuberculosis" **PLoS Negl Trop Dis** 6;8(11):e3289.

16. Jovvian George Parrakal, Anuradha R, **Nathella Pavan Kumar**, Rathinam Sridhar R, Vaithilingam V. Banurekha, Thomas B Nutman, Subash Babu (2014) Helminth infections coincident with active pulmonary tuberculosis inhibit mono- and multifunctional CD4+ and CD8+ T cell responses in a process dependent on IL-10. **PLoS Pathog** 10(9):e1004375.
17. Bruno B. Andrade, **Nathella Pavan Kumar** , Katrin D. Mayer-Barber, Daniel L. Barber, Rathinam Sridhar , Vaithilingam V. Banu Rekha , Mohideen S. Jawahar , Thomas B. Nutman, Alan Sher and Subash Babu. (2013) "Plasma Heme Oxygenase-1 Levels Distinguish Latent or Successfully Treated Human Tuberculosis from Active Disease" **PLoS ONE** 8(5): e62618.
18. Radha Gopal, Leticia Monin, Diana Torres, Samantha Slight, Smriti Mehra, Kyle C. McKenna, Beth A. Fallert Junecko, Todd A. Reinhart, Jay Kolls, Renata Ba´ez-Saldan˜a **Nathella Pavan Kumar**, Phillipe Tessier et.al., et al (2013) "S100A8/A9 Proteins Mediate Neutrophilic Inflammation and Lung Pathology during Tuberculosis" **American Journal of Respiratory and Critical Care Medicine** Vol 188, Iss. 9, pp 1137–1146, Nov 1.
19. R. Anuradha P. Jovvian George, **Nathella Pavan Kumar**, V. Kumaraswami, Thomas B. Nutman, Subash Babu. (2012) "Altered Circulating Levels of Matrix Metalloproteinases and Inhibitors Associated with Elevated Type 2 Cytokines in Lymphatic Filarial Disease" **PLoS Negl Trop Dis** 6(6): e1681
20. George PJ, Anuradha R, **Nathella Pavan Kumar**, Kumaraswami V, Nutman TB, Subash Babu (2012) "Evidence of Microbial Translocation Associated with Perturbations in T Cell and Antigen-Presenting Cell Homeostasis in Hookworm Infections" **PLoS Negl Trop Dis** 6(10)
21. Subash Babu, R. Anuradha, **N. Pavan Kumar**, P. Jovvian George, V. Kumaraswami, and Thomas B. Nutman. (2012) Toll-Like Receptor- and Filarial Anigen-Mediated, Mitogen-Activated Protein Kinase- and NK-kB-Dependent Regulation of Angiogenic Growth Factors in Filarial Lymphatic Pathology. *Infection and Immunity*, 80(7):2509
22. Soumi Bairagi, Jayashree Gopal, Abel A. Nathan¹, Subash S. Babu, **N. Pavan Kumar**, and Madhulika Dixit (2011) "Glucose-induced increase in circulating progenitor cells is blunted in polycystic amenorrhoeic subjects" **Human Reproduction**, Vol.27, No.3 pp. 844–853.
23. **Subash Babu, R. Anuradha, N. Pavan Kumar, P. Jovvian George, V. Kumaraswami, and Thomas B. Nutman.** (2011) "Filarial Lymphatic Pathology Reflects Augmented Toll-Like Receptor-Mediated, Mitogen-Activated Protein Kinase-Mediated Proinflammatory Cytokine Production" **Infection and Immunity**, 2011, 79(11):4600. DOI
24. Oliveira-de-Souza D, Vinhaes C, Arriaga MB, **Pavan Kumar N**, Cubillos-Angulo JM, Shi R, Wei W, Yuan X5, Zhang G, Cai Y, Barry CE 3rd, Via LE, Sher A, Babu S, Mayer-Barber KD, Nakaya HI, Fukutani KF, and Andrade BB (2019) "Molecular degree of perturbation of plasma inflammatory markers associated with tuberculosis reveals distinct disease profiles between Indian and Chinese populations" **Nature Sci Rep.** 2019 May 29;9(1):8002.
25. Subash Babu, Sajid Q. Bhat, **N. Pavan Kumar**, V. Kumaraswami, and Thomas B. Nutman. (2010) "Regulatory T Cells Modulate Th17 Responses in Patients with Positive Tuberculin Skin Test Results. **The Journal of Infectious Diseases.** 201:20–31
26. Vivekanandhan Aravindhan, Viswanathan Mohan, Jayagopi Surendar, Maradana Muralidhara Rao, **Nathella Pavan kumar**, Mohan Deepa, Ramanujam Rajagopalan, Vasanthapuram Kumaraswami, Thomas B. Nutman, Subash Babu. (2010) Decreased Prevalence of Lymphatic Filariasis among Diabetic Subjects Associated with a Diminished Pro- Inflammatory Cytokine Response (CURES 83). **PLoS Neglected Tropical Disease.** 4(6): e707
27. Subash Babu, Sajid Q. Bhat, **N. Pavan Kumar**, R. Anuradha, Paul Kumaran, P. G. Gopi, C. Kolappan, V. Kumaraswami, Thomas B. Nutman (2009) Attenuation of Toll-Like Receptor Expression and Function in

- Latent Tuberculosis by Coexistent Filarial Infection with Restoration Following Antifilarial Chemotherapy. **PLOS Neglected Tropical Disease**. 3(7): e489.
28. Subash Babu, Sajid Q. Bhat, **N.Pavan Kumar**, S.Jayantasri, S.Rukmani, Paul Kumaran, P.G.Gopi, C.Kolappan, V.Kumaraswami, and Thoman B. Nutman (2009) Human Type 1 and 17 Responses in Latent Tuberculosis Are Modulated by Coincident Filarial Infection through Cytotoxic T Lymphocyte Antigen-4 and Programmed Death-1. **The Journal of Infectious Diseases**. 200:288-98
 29. Subash Babu, Sajid Q. Bhat, **N.Pavan Kumar**, Angelo B.Lipira, Sanath Kumar, C.Karthik, V.Kumaraswami, Thomas B.Nutman. (2009) Filarial Lymphedema Is Characterized by Antigen- Specific Th1 and Th17 Proinflammatory Responses and a lack of Regulatory T Cells. **PLOS Neglected Tropical Disease**. 3(4): e420
 30. R. Anuradha P. Jovvian George, **N. Pavan Kumar**, Michael P. Fay, V. Kumaraswami, Thomas B. Nutman, Subash Babu. (2012) "Circulating Microbial Products and Acute Phase Proteins as Markers of Pathogenesis in Lymphatic Filarial Disease. **PLoS Pathogen** 8(6): e1002749.

Selected Conference Presentation

1. Keystone Symposia - "**Tuberculosis: Mechanisms, Pathogenesis and Treatment**" 17th – 21th January 2019, Banff, Alberta, Canada
2. Keystone Symposia - "**Tuberculosis: Translating Scientific Findings for Clinical and Public Health Impact**" 15th – 19th April 2018, Whistler, British Columbia, Canada
3. "**Global Forum on TB Vaccines**" 20th – 23rd February 2018, New Delhi, India.
4. Keystone Symposia – "**New Developments in our Basic Understanding of Tuberculosis**" January 14 - 18, 2017, Vancouver, British Columbia, Canada
5. Keystone Symposia - "**Tuberculosis Co-morbidities and Immunopathogenesis**" February 28 – March 3, 2016 Keystone, Colorado, USA
6. Keystone Symposia - "**Host Responses to Tuberculosis**" January 22-27, 2015, Santa Fe, New Mexico, USA
7. Keystone Symposia - "**Novel Therapeutic Approaches to Tuberculosis**" March 30 – April 4, 2014 Keystone, Colorado, USA
8. "**Second International Science Symposium on HIV and Infectious Diseases (HIV SCIENCE 2014)**" January 30 – February 1, 2014 Chennai, India
9. Keystone Symposia - "**Host Responses to Tuberculosis**" 13th – 18th March 2013, Whistler, Canada
10. "**5th Congress of the Federation of Immunological Societies of Asia Oceania**" 14th – 17th March 2012, New Delhi, India
11. "**First International Science Symposium on HIV and Infectious Diseases (HIV SCIENCE 2012)**" 20th – 22th January 2012, Chennai, India
12. Keystone Symposia - "**Immunology Cell biology novel vaccine strategies**" 15th – 20th January 2011, Vancouver, British Columbia, Canada

