



**Name:** Dr. Vandana Saxena

**Designation:** Scientist-‘C’

**Department:** Immunology

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**Educational qualification:**

Degree	Year	Institution
Ph.D	2008	Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow
M.Sc. (Botany)	2002	Lucknow University, Lucknow
B.Sc. (Biology)	1999	Lucknow University, Lucknow

**Awards and Honors:**

- Senior research fellowship; Council of Scientific and Industrial Research (CSIR), India 2005
- Junior research fellowship; Council of Scientific and Industrial Research (CSIR), India 2003
- CSIR-National eligibility test (NET/JRF) Examination, India 2002
- Birbal Sahni Memorial Gold Medal award for securing highest percentage of marks in M.Sc., India 2002
- Pratibha Samman 2002, Akhil Bhartiya Vidyarthi Parishad, UP, India 2002

**Research Experience:**

- 2003-2005: Junior Research Fellow (CSIR) in the Dept. of Microbiology at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow  
Field of Study: ‘Study of Cytokine profile during Japanese encephalitis virus infection’
- 2005-2008: Senior Research Fellow (CSIR) in the Dept. of Microbiology at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow  
Field of Study: ‘Study of Cytokine profile during Japanese encephalitis virus infection’
- 2008-2010: Post Doctoral Fellow at Cedars Sinai Medical Center, UCLA, California, USA  
Field of Study: ‘Development of an endogenous brain tumor/glioma model in rodents using various lentiviral vectors’
- 2010-2013: Post Doctoral Fellow at University of Texas Medical Branch, Galveston, Texas, USA  
Field of Study: ‘Characterization of an attenuated West Nile Virus isolate and study of immune response elicited against this mutant isolate in murine model’
- Aug 2013- till date: Scientist-‘C’ at Department of Immunology, National AIDS Research Institute, ICMR, Pune, India

**Area of Interest:** The focus of my research interest is to explore:

- Innate and adaptive immune mechanisms involved during viral infections
- microRNA mediated regulation of immune responses

- Mucosal Immunology

### Current Projects:

1. Phenotypic and functional characterization of Th17 cell during long term non-progression of HIV (Intramural)
2. Effect of anti-retroviral treatment (ART) on the cervicovaginal levels of transforming growth factor (TGF)- $\beta$  in HIV infected women: an exploratory study (Intramural)

### Publications:

1. Blitvich BJ, Wang T, **Saxena V**, Zeng S, Harmon KM, Raymond MD, Goins KM, Reed C, Mullins RF, Greiner MA. West Nile Virus Infection in Human and Mouse Cornea Tissue. *Am J Trop Med Hyg.* 2016 Sep 26. pii: 16-0256.
2. McGruder B, **Saxena V**, Wang T. Lessons from the Murine Models of West Nile Virus Infection. *Methods Mol Biol.* 2016; 1435:61-9.
3. Mane A, Vidhate P, Kusro C, Waman V, **Saxena V**, Kulkarni-Kale U, Risbud A. Molecular mechanisms associated with Fluconazole resistance in clinical *Candida albicans* isolates from India. *Mycoses.* 2016 Feb; 59(2):93-100.
4. Zhang J, Wang J, Pang L, Xie G, Welte T, **Saxena V**, Wicker J, Mann B, Soong L, Barrett A, Born W, O'Brien R, Wang T. The co-stimulatory effects of MyD88-dependent Toll-like receptor signaling on activation of murine  $\gamma\delta$  T cells. *PLoS One.* 2014; 9 (9): e108156.
5. Lynes J, Wibowo M, Koschmann C, Baker GJ, **Saxena V**, Muhammad AK, Bondale N, Klein J, Assi H, Lieberman AP, Castro MG, Lowenstein PR. Lentiviral-Induced High-Grade Gliomas in Rats: The Effects of PDGFB, HRAS-G12V, AKT, and IDH1-R132H. *Neurotherapeutics.* 2014 Apr 22.
6. Xie G, Welte T, Wang J, Whiteman MC, Wicker JA, **Saxena V**, Cong Y, Barrett AD, Wang T. A West Nile virus NS4B-P38G mutant strain induces adaptive immunity via TLR7-MyD88-dependent and independent signaling pathways. *Vaccine.* 2013 Aug 28; 31(38):4143-51.
7. **Saxena V**, Xie G, Li B, Farris T, Welte T, Gong B, Boor P, Wu P, Tang SJ, Tesh R, Wang T. A hamster-derived West Nile virus isolate induces persistent renal infection in mice. *PLoS Negl Trop Dis.* 2013 Jun 13; 7(6): e2275.
8. **Saxena V**, Welte T, Bao X, Xie G, Wang J, Higgs S, Tesh RB, Wang T. A hamster-derived West Nile virus strain is highly attenuated and induces a differential proinflammatory cytokine response in two murine cell lines. *Virus Res.* 2012 Aug;167(2):179-87
9. Puntel M, Barrett RJ, Mondkar S, **Saxena V**, Kroeger KM, Muhammad AK, Liu C, Bondale N, Sciascia S, Xiong W, Shi Y, Salem A, Zadmehr A, Huynh P, Palmer D, Ng P, Castro MG, Lowenstein PR. Herpes simplex virus type 1 thymidine kinase sequence fused to the lacZ gene increases levels of  $\beta$ -galactosidase activity per genome of high-capacity but not first-generation adenoviral vectors in vitro and in vivo. *J Virol.* 2009 Feb;83(4):2004-10
10. **Saxena V**, Mishra VK, Dhole TN. Evaluation of reverse-transcriptase PCR as a diagnostic tool to confirm Japanese encephalitis virus infection. *Trans R Soc Trop Med Hyg.* 2009 Apr; 103(4):403-6.
11. Kumar S, Kalita J, **Saxena V**, Khan MY, Khanna VK, Sharma S, Dhole TN, Misra UK. Some observations on the tropism of Japanese encephalitis virus in rat brain. *Brain Res.* 2009 May 1; 1268:135-41.

12. **Saxena V**, Mathur A, Krishnani N, Dhole TN. Kinetics of cytokine profile during intraperitoneal inoculation of Japanese encephalitis virus in BALB/c mice model. *Microbes Infect.* 2008 Aug-Sep; 10(10-11):1210-7.
13. **Saxena V**, Mathur A, Krishnani N, Dhole TN. An insufficient anti-inflammatory cytokine response in mice brain is associated with increased tissue pathology and viral load during Japanese encephalitis virus infection. *Arch Virol.* 2008; 153(2):283-92.
14. **Saxena V**, Dhole TN. Preventive strategies for frequent outbreaks of Japanese encephalitis in Northern India. *J Biosci.* 2008 Nov; 33(4):505-14. (Review article)
15. Tian Wang, Thomas Welte, **Vandana Saxena** and Guorui Xie (2011). Immunity Versus Immunopathology in West Nile Virus Induced Encephalitis, Flavivirus Encephalitis, Dr. Daniel Ruzek (Ed.), ISBN: 978-953-307-669-0, InTech, DOI: 10.5772/20355 (Book Chapter)