


MANISH MALVIYA, PhD

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Senior Research Scientist

Memorial Sloan Kettering Cancer Center,
1275 York Ave, New York, NY 10065, USA

EDUCATION

2015: Ph.D, in Immunology, Germany
2004: M.Sc, in Biochemistry, India

RESEARCH INTEREST

- Exploitation of the human immune system for generating therapeutic engineered T cells and antibodies against cancer and autoimmune diseases.
- Recombinant antibody/nanobodies, T Cell Receptor (TCR), and Chimeric Antigen Receptor (CAR) technologies.
- Engineered regulatory T-cell therapies in autoimmunity and neurodegenerative diseases.
- Organotypic brain slice cultures as models for the interaction between the immune system and brain.

RESEARCH ACTIVITIES

- Since 2019 :** Senior Research Scientist, with Dr. David A. Scheinberg, and Dr. Yueming Li at MSKCC, New York, USA. Project - Engineered CAR-Treg immunotherapy for Alzheimer's disease.
- 2015 - 2019:** Post-doctoral position, with Prof. Roland Liblau, Laboratoire d'Immunologie, INSERM, Toulouse, FRANCE. Project - Molecular engineering of Tregs expressing recombinant TCR: study of their therapeutic effects in an animal model of multiple sclerosis.
- 2011 - 2015:** PhD in Immunology, with Prof. Norbert Goebels, Neurology, HHU, Düsseldorf, GERMANY. Project - Identification of autoantibody producing plasma cells in the CSF of Autoimmune encephalitis patients.
- 2009 - 2011:** Research Associate, with Prof. Jochen Walter, Neurology, University of Bonn, GERMANY. Project - Molecular mechanism of Amyloid- β ($A\beta$) fibril formation and development of monoclonal antibodies against phosphorylated $A\beta$.
- 2007 - 2009:** PhD in Chemistry, with Prof. K.S. Rangappa, University of Mysore, Mysore, INDIA. Project - Development of Muscarinic receptor -1 agonist molecules as a potential disease-modifying therapy for Alzheimer's disease.
- 2005 - 2007:** Research Assistant, with Prof. M.N. Subhash, Neurochemistry, NIMHANS, Bangalore, INDIA. Project - *In vivo* effect of antidepressants on [3 H]paroxetine binding to serotonin transporters in rat brain.
- 2004 - 2005:** Trainee Scientist in Bioinformatics, Jubilant Biosys Ltd., Bangalore, INDIA.
- 2002 - 2004:** Master of Science (M.Sc.) in Biochemistry, Banaras Hindu University, Varanasi, INDIA.

REVIEWING OF SCIENTIFIC ARTICLES, AND MEMBERSHIP

- **Review Editor:** Journal of Immunology; Frontiers in Immunology; Molecular Therapy, Frontiers in Neurology; International Journal of Immunology. <https://loop.frontiersin.org/people/840174/overview>
- **Member:** The American Association of Immunologists (AAI-id # 00254595); The American Association for the Advancement of Science (AAAS# 41287225); The New York Academy of Science; and Life member, Society for Neurochemistry-India (SNCI # LM-I-240).

RESEARCH EXPERTISE

Immunology:

- Molecular engineering of T-cells/Tregs with TCR and CAR.
- Design and production of recombinant antibodies, nanobodies and proteins.
- Immunophenotyping. Cytokine profiling. Flow cytometry. ELISA. ELISpot.
- Viability/Cytotoxicity. Luciferase reporter assay. Treg suppression assays.
- Primary immune cells isolation from Human PBMC, and Mouse's Spleen, Lymph nodes, Bone marrow, Tumor, Brain, Gut, etc.
- In-depth understanding of V(D)J repertoire of T cells and B cells.

Virology:

- Retroviral and lentiviral vectors engineering.
- Virus production, and transduction.

Biochemistry & Molecular biology:

- Single cell PCR. Molecular cloning. CRISPR/Cas9. Immunoprecipitation. Western blot. Enzyme functional assays. Microscopy.
- Recombinant protein and monoclonal antibody engineering.

Animal models & Cognitive-behavioral tests:

- Modeling of Tumor, Alzheimer's Disease, and Autoimmune diseases (Inflammation and EAE).
- Handling immunocompetent and immunodeficient models. In-vivo bioluminescence imaging.
- Intravenous, Intraperitoneal, Intracranial, and subcutaneous injections; Stereotaxic brain microinjection. Dissection. Immunization.
- Behavioral Testing (Y-maze and Novel object recognition test).

SOFT SKILLS

- Lead, guide, and work with other Scientists to support multi-functional teams
- Communicate/coordinate activities, prepare and present data in cross-functional meetings
- Stay ahead of technological/scientific developments
- Passion for cell-based assay development and drug discovery
- Strong background in immunology
- Teamwork and problem solving in a fast-paced environment

FELLOWSHIP AWARDS

- The European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS)-Postdoc Fellowship.
- European Commission-Marie Sklodowska-Curie-ITN-Neurokine postdoc fellow.
- The Indian Council of Medical Research (ICMR)- Senior Research Fellowship.
- Riken BSI (Japan) 2008 Summer School fellowship, and Osaka University (Japan) Global COE and IBRO-APRC sponsored 2008 Summer School fellowship.

WORKSHOPS/CONFERENCES/SCHOOLS

- Treg Summit 2023-Boston, USA.
- ECTRIMS 2018-Berlin, GERMANY.
- ARSEP meeting 2018- PARIS, FRANCE.
- MSPARIS2017 (7 Joint ECTRIMS- ACTRIMS meeting)- PARIS, FRANCE.
- RIKEN Brain Science Institute Summer School, 2008 at *JAPAN*.
- Osaka University Global COE and IBRO- APRC Summer School, 2008 *JAPAN*.

SELECTED PUBLICATIONS

1. **Manish Malviya**, et al. (2023); Challenges and solutions for Therapeutic TCR-based agents. *Immunological Reviews*. <https://doi.org/10.1111/imr.13233>
2. SSM, JM, LP, TK, TG, **Manish Malviya**, et al. (2023); Dual targeting ovarian cancer by Muc16 CAR-T cells secreting a bispecific T cell engager antibody for an intracellular tumor antigen WT1. *Cancer Immunol Immunother*. 2023 Aug 27. doi: 10.1007/s00262-023-03529-w
3. **Manish Malviya**, et al. (2020); Treatment of experimental autoimmune encephalomyelitis with engineered bi-specific Foxp3⁺ regulatory CD4⁺ T cells. *J Autoimmun*. Jan 13:102401. <https://doi.org/10.1016/j.jaut.2020.102401>
4. TJG, CMB, MMD, KK, **Manish Malviya**, et al. (2020); Targeted Cellular Micropharmacies: Cells Engineered for Localized Drug Delivery. *Cancers*. 12 (8), 2175. <https://doi.org/10.3390/cancers12082175>
5. **Manish Malviya**, et al. (2017); NMDAR encephalitis: passive transfer from man to mouse by a recombinant antibody. *Ann Clin Transl Neurol*. Oct 3;4(11):768-783. <https://doi.org/10.1002/acn3.444>
6. MW, CB, JS, SB, **Manish Malviya**, et al. (2016); Dose dependent inhibition of demyelination and microglia activation by IVIG. *Ann Clin Transl Neurol*. Sep 23;3(11):828-843. <https://doi.org/10.1002/acn3.326>
7. **Manish Malviya**, et al. (2014); Autoimmune encephalitis: Single cell PCR analysis of the intrathecal plasma cell repertoire. *J Neuroimmunol*. October 15, Volume 275, Issues 1-2, Page5. <http://dx.doi.org/10.1016/j.jneuroim.2014.08.019>
8. HRG, JNNSC, SB, **Manish Malviya**, et al. (2009); Active site directed docking studies, synthesis and pharmacological evaluation of cis-2, 6-dimethyl piperidine sulfonamides as inhibitors of acetylcholinesterase. *Eur J Med Chem*. 44, (10), 4057-4062. <https://doi.org/10.1016/j.ejmech.2009.04.042>
9. JNNSC, **Manish Malviya**, et al. (2008); Effect of novel arecoline thiazolidinones as muscarinic receptor 1 agonist in Alzheimer's dementia models. *Neurochemistry international* 52, (3), 376-383. <https://doi.org/10.1016/j.neuint.2007.07.006>.

TOTAL NUMBER OF PUBLICATIONS 24;

h-index 10

FULL PUBLICATION LIST: <https://scholar.google.com/citations?user=OK5YtBIAAAAJ&hl=en&oi=ao>