

REPORT

Report on participation of the ICMR International Fellow (ICMR-IF) in Training/Research abroad

1. **Name and designation of ICMR-IF** : Rashmi S. Tupe, Assistant Professor
2. **Address** : Rajiv Gandhi Institute of IT and Biotechnology, Bharati Vidyapeeth University, Katraj, Pune-46, Maharashtra, India.
3. **Frontline area of research in which training/ research was carried out** : Diabetic nephropathy
4. **Name and address of Professor and host institute** : Prof. Yashpal S. Kanwar, M.D., Ph.D. FSM, Northwestern University, 303 E. Chicago Ave. Room # Ward 6-076 Chicago, Illinois 60611 USA
5. **Duration of Fellowship** : 17-2- 2014 to 17-8-2014

6. Highlights of research work conducted :

i. Techniques/expertise acquired :

In Northwestern University, I have studied the interaction of glycation with tubular specific enzyme Myoinositol oxygenase (MIOX) in diabetic nephropathy. For this research work various cell lines i.e. renal proximal tubular epithelial cell lines- HK-2 (human) and LLC-PK1 (porcine) normal and MIOX stably transfected cells were used. Further, the in vitro results were confirmed in CD-1 male mice. During the visit, techniques acquired are -siRNA transfection; q-PCR, CHIP, promoter analysis; Western Blotting, TUNEL assay, Immunofluorescence, Immunohistochemistry, genotyping, animal surgery with renal perfusion.

ii. Research results, including any papers, prepared/submitted for publication:

- One abstract is submitted to the American Society of Nephrology (ASN) Annual Meeting to be held in Philadelphia, November 13-16, 2014. Title- "Advanced Glycation End Products Induces Myo-Inositol Oxygenase via Activation of PI3K Pathway in Proximal Tubular Epithelial Cells". (The details are attached herewith.)
- One manuscript is under preparation for submission to 'Diabetes' journal.

iii. Proposed utilization of the experience in India:

The gained experience of different cell biology and molecular biology techniques will be very useful to my ongoing research project focused on diabetic nephropathy. Additionally, this knowledge will also be useful for the understanding the glycation induced modifications in Indian diabetic patients. Having experience of the state-of-the-art biological techniques and recent developments during fellowship will be beneficial for the planning and execution of future research with noteworthy outcome.