Prakash Baligar
Associate Professor

Specialization: Stem Cell Research, Tissue Engineering, Liver Regeneration, *Ex vivo* Organ Development and Reproductive Biology

Email: pbaligar@amity.edu

Dr. Prakash Baligar did his Ph.D. from Karnataka University, Dharwad and Postdoctoral Research for 7 years in National Institute of Immunology (NII), New Delhi. Dr. Prakash joined Amity Institute of Molecular Medicine and Stem Cell Research (AIMMSCR) in 2015, and his research focus is on Stem Cell and Tissue Engineering. Dr. Prakash flags the major concerns in transplantation medicine to overcome the shortage of donor organs/tissues and their timely availability to treat many diseased/injured patients. Thus, his research focuses on stem cell therapy for human degenerative and genetic diseases. He has showed donor antigen-primed regulatory T cells permit liver regeneration and phenotype correction by allogeneic bone marrow stem cells in *hemophilia A* mouse model. Bone marrow stem cell therapy also has been shown to improve pathological consequences of liver in human α1-antitrypsin deficient mice. Presently, he has been engaged in the development of ex-vivo partial liver organ by using natural scaffold composite and stem cells to replace the damaged liver and it can also be used for many liver drug testing. He is also interested in developing novel skin graft for burns and bone injury. His long-term goal is to direct differentiation of stem cells in situ into different lineages (hepatocytes, cardiomyocytes, and keratinocytes etc.) with scaffold and ex-vivo organ development by over-expressing/inducing master regulator genes/factors in the stem cells.

Current Research Project:

DST-SERB funded research project entitled "**Ex vivo partial liver organ development by using stem cells and tissue engineering approaches".**

Selected important Publications:

1. **Baligar P,** Veena Kochat, Shailendra K. Arindkar, Snehashish Mukherjee, Zaffar Equbal, Swati Patel, Perumal Nagarajan, Sujata Mohanty, Jeffrey H. Teckman, Asok Mukhopadhyay. (**2017)** Bone marrow stem cell therapy partially ameliorates pathological consequences of liver in mice expressing mutant human α1-antitrypsin. **Hepatology**. In Press. **(IF - 13.24**).
2. **Baligar P,** Mukaherjee S, Veena K, Rastogi A, Mukhopadhyay A. **(2016)** Molecular and cellular functions distinguish superior therapeutic efficiency of bone marrow CD45 cells over mesenchymal stem cells in liver cirrhosis. **Stem cells**. 34: 135–147. **(IF - 5.90**).
3. Alak nanda Mishra; Srikanth Iyer; Satya Pal Arya; **Prakash Baligar;** Silendra Arindkar; Ashwani kesarwani; Subeer Majumdar; Pramod Upadhayay; Jerald Mahesh Kumar, Nagarajan P. **(2016)** Role of antigen presenting cell invariant chain in the development of hepatic steatosis in mouse model. **Experimental Cell Research**. 346(2) 188-197. **(IF - 3.78**).
4. **Baligar P** Sahu N,***,** Midha S, Kundu B, Bhattacharjee M, Mukherjee S, Mukherjee S, Maushart F, Das S, Loparic M, Kundu SC, Ghosh S, Mukhopadhyay A. **(2015)** Nonmulberry Silk Fibroin Scaffold Shows Superior Osteoconductivity Than Mulberry Silk Fibroin in Calvarial Bone Regeneration. **Adv Healthc Mater**. 4(11) 1709-21. **(IF - 5.76**).
5. Veena Kochat, Sumod Kanjirakkuzhiyil, **Prakash Baligar**, Perumal Nagarajan and Asok Mukhopadhyay. **(2015)** Donor antigen-primed regulatory T cells permit liver regeneration and phenotype correction in hemophilia A mouse by allogeneic bone marrow stem cells. **Stem Cell Research & Therapy**. 6,129. **(IF - 4.50**)