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Research interests:

Over the past 3-odd decades focus of research has been on understanding pathways regulating the fate of T lymphocytes in immune responses. Using both mice and humans as appropriate model systems these questions are being addressed in the context of different pathophysiological situations. In addition, understanding variability in the biological systems, with special focus on the immune system parameters, has been of interest.

Prior to the present affiliation worked at the National Institute of Immunology as a Staff Scientist for 26 years.

Recent publications:

1. Jain N, Oswal N, Chawla AS, Agrawal T, Biswas M, Vrati S, Rath S*, George A*, Bal V*, Medigeshi GR* (2017). CD8 T cells protect adult naive mice from JEV-induced morbidity via lytic function. **PLoS Neglected Tropical Diseases** (In print).
2. Tanwar S, Dhar A, Varanasi V, Mukherjee T, Boppana R, Basak S, Bal V*, George A* and Rath S* (2017). Mediation of transitional B cell maturation in the absence of functional Bruton's tyrosine kinase. **Scientific Reports** (In print).
3. Balyan R, Gund R, Ebenezer C, Khalsa JK, Verghese DA, Krishnamurthy T, George A*, Bal V*, Rath S*, Chaudhry A*. (2017). Modulation of naive CD8 T cell response features by ligand density, affinity and continued signaling via internalised TCRs. **J Immunol**. 2017 Jan 18. pii: 1600083. doi: 10.4049/jimmunol.1600083.
4. Prabhu SB, Rathore DK, Nair D, Chaudhary A, Raza S, Kanodia P, Sopory S, George A, Rath S, Bal V, Tripathi R, Ramji S, Batra A, Aggarwal KC, Chellani HK, Arya S, Agarwal N, Mehta U, Natchu UCM, Wadhwa N, Bhatnagar S (2016). Comparison of human neonatal and adult blood leukocyte subset composition phenotypes. **PLoS One** 11, e0162242.
5. Basu S, Kaw S, D'Souza L, Vaidya T, Bal V*, Rath S*, George A* (2016). Constitutive CD40 Signaling Calibrates Differentiation Outcomes in Responding B Cells via Multiple Molecular Pathways. **J Immunol** 197, 761-770.
6. Jain N, Khullar B, Oswal N, Banoth B, Joshi P, Ravindran B, Panda S, Basak S, George A*, Rath S*, Bal V* and Sopory S* (2016). TLR-mediated albuminuria needs TNF α -mediated co-operativity between TLRs present in hematopoietic tissues and CD80 present on non-hematopoietic tissues. **Disease Models and Mechanisms** 9, 707-717.
7. Rathore DK, Nair D, Raza S, Saini S, Singh R, Kumar A, Tripathi R, Ramji S, Batra A, Aggarwal KC, Chellani HK, Arya S, Bhatla N, Paul VK, Aggarwal R, Agarwal N, Mehta U, Sopory S, Natchu UCM, Bhatnagar S, Bal V, Rath S and Wadhwa N (2015). Underweight

full-term Indian neonates show differences in umbilical cord blood leukocyte phenotype: a cross-sectional study. **PLoS One** *10*, e0123589.

8. Rane S, Das R, Ranganathan V, Prabhu S, Das A, Mattoo H, Durdik JM*, George A*, Rath S*, Bal V* (2014) Peripheral residence of naïve CD4 T cells induces MHC class II-dependent alterations in phenotype and function. **BMC Biology** *12*, 106.