



Jinhua LU

D. Phil. (Oxford)

Associate Professor

Department of Microbiology

Faculty of Medicine

National University of Singapore

Blk MD4

5 Science Drive 2, Singapore 117597

Phone: 6516 3277 E-mail : miclujh@nus.edu.sg

MAJOR RESEARCH INTERESTS

Research activities in this group revolve around human dendritic cells and macrophages with particular interests in Toll-like receptor cross-talk with phagocytic receptors in these cells leading to modified activation for immunity and tolerance. The following are ongoing projects in this group:

1. Complement receptor signalling and regulation of TLR-mediated dendritic cell production of cytokines.
2. Microbial sensing by scavenger receptors and regulation of Toll-like receptor signalling.
3. The regulatory roles of C1q through modulation of dendritic cells and macrophages – tolerance and autoimmunity.
4. Regulation of IL-12 and IL-10 production by dendritic cells and macrophages.
5. Dendritic cell-targeted vaccine development.

RECENT REPRESENTATIVE PUBLICATIONS

1. Lu J. (1997) Collectins, collectors of microorganisms for the innate immune system. *BioEssays* **19**, 509-518.
2. Li B, New JY, Yap EH, Lu J, Chan SH and Hu H. (2001) Blocking L-selectin and alpha4-integrin changes donor cell homing pattern and ameliorates murine acute graft versus host disease. *Eur. J. Immunol.* **31**, 617-624.
3. Lu J, Teh C, Kishore U and Reid KBM. (2002) Collectins and ficolins: sugar pattern recognition molecules of the mammalian innate immune system. *Biochem. Biophys. Acta* **1572**, 387-400.
4. Zhang H, Tay PN, Cao W, Li W and Lu J. (2002) Integrin-nucleated toll-like receptor (TLR) dimerization reveals subcellular targeting of TLRs and distinct mechanisms of TLR4 activation and signaling. *FEBS Lett.* **532**, 171-176
5. Cao W, Bobryshev YV, Lord RSA, Oakley REI, Lee SH and Lu J. (2003) Dendritic cells in the arterial wall express C1q: potential significance in atherogenesis. *Cardiovasc. Res.* **60**, 175-1
6. Chen K, Lu J, Wang L and Gan YH. (2004) Mycobacterial heat shock protein 65 enhances antigen cross-presentation in dendritic cells independent of Toll-like receptor 4 signaling. *J. Leukoc Biol.* **75**, 260-266
7. Hu HZ, Tang KF, Chua YN, Lu J, Feng P, Chew CT and Chan SH. (2004) Expression of Interleukin-18 by Nasopharyngeal Carcinoma Cells: A Factor that Possibly Initiates the Massive Leukocyte Infiltration. *Human Pathology* **35**, 722-728
8. Bobryshev YV, Cao W, Phoon MC, Tran D, Chow VTK, Lord RSA and Lu J. (2004) Detection of *Chlamydia pneumoniae* in dendritic cells in atherosclerotic lesions. *Atherosclerosis* **173**, 185-195.
9. Wang L, Zhang H, Zhong F and Lu J. (2004) A Toll-like receptor (TLR)-based two-hybrid assay for detecting protein-protein interactions on live eukaryotic cells. *J. Immunol. Methods* **292**, 175-186.
10. Lock K, Zhang J, Lu J, Lee SH and Crocker PR. (2004) Expression of human CD33-related siglecs on mononuclear phagocytes and dendritic cells. *Immunobiology* **209**, 199-207.
11. Cao W, Lee SH and Lu J. (2005) CD83 is preformed inside monocytes, macrophages and dendritic cells but it is only stably expressed on activated dendritic cells. *Biochem. J.* **385**, 85-93.
12. Zhong F, Cao W, Chan E, Tay PN, Cahya FF, Zhang H and Lu J. (2005) Deviation from major codons in the Toll-like receptor genes is associated with low Toll-like receptor expression. *Immunology* **114**, 83-93.
13. Bobryshev, Y. V., Golovanova, N. K., Tran, D., Samovilova, N. N., Gracheva, E. V., Effremov, E. E., Sobolev, A. Y., Yurchenko, Y. V., Lord, R. S. A., Cao, W., **Lu, J.**, Saito, M. and Prokazova, N. V. (2006) Expression of GM3 synthase in human atherosclerotic lesions. *Atherosclerosis* **184**, 63-71.
14. Sun, G., **Lu, J.**, Pervaiz, S. and Lu, J. (2006) Caspase-1 dependent macrophage death induced by *Burkholderia pseudomallei*. *Cell. Microbiol.* **7**, 1447-1458
15. Cao, W., Tan, P., Lee, C. H., Zhang, H. and **Lu, J.** (2006) A Transforming Growth Factor β -induced Protein Stimulates Endocytosis and Is Specifically Induced in Immature Dendritic Cells. *Blood* **107**, 2777-2785
16. **Lu, J.**, Wu, X. and Teh, B. K. (2007) The regulatory roles of C1q. *Immunology. In press.*
17. Leth-Larsen, R., Zhong, F., Chow, V. T. K., Holmskov, U. and **Lu, J.** (2007) The SARS coronavirus spike glycoprotein is selectively recognized by lung surfactant protein D and activates macrophages. *Immunobiology.* **212** (3), 201-211