

## MARK Y. SANGSTER

The University of Tennessee  
Department of Microbiology  
1414 West Cumberland Avenue  
Knoxville, TN 37996  
Phone: (865) 974-4028, Fax: (865) 974-4007  
Email: [msangste@utk.edu](mailto:msangste@utk.edu)

### EDUCATION

B.Sc.(Hons), 1984	University of Western Australia, Perth
Ph.D., 1991	University of Western Australia, Perth

### APPOINTMENTS

1989-91	Research Assistant, Department of Microbiology, University of Western Australia
1991-92	Athelstan and Amy Saw Medical Research Fellow, University of Western Australia
1992-97	Postdoctoral Research Fellow, Department of Immunology, St. Jude Children's Research Hospital, Memphis, Tennessee, USA
1997-2003	Associate Investigator, Department of Immunology, St. Jude Children's Research Hospital, Memphis, Tennessee, USA
2003-present	Assistant Professor, Department of Microbiology, University of Tennessee, Knoxville, Tennessee, USA

### PUBLICATIONS

1. Sangster, M.Y., and Shellam, G.R. (1986). Genetically controlled resistance to flaviviruses within the house mouse complex of species. *Curr. Top. Microbiol. Immunol.*, **127**, 313-318.
2. Sangster, M.Y., and Shellam, G.R. (1986). Genetically controlled resistance to Murray Valley encephalitis virus in wild mice. *Arbovirus Res. Aust.* **4**, 75-78.
3. Sangster, M.Y., Mackenzie, J.S., and Shellam, G.R. (1989). Mouse models of genetically mediated host resistance to flaviviruses. *Arbovirus Res. Aust.* **5**, 106-110.
4. Weaver, D., Skinner, S., Walker, L., and Sangster, M. (1991). Phenotypic inhibition of the renin-angiotensin system, emergence of the Ren-2 gene, and adaptive radiation of mice. *Gen. Comp. Endocrinol.* **83**, 306-315.
5. Sangster, M.Y., Shellam, G.R., Heliam, D., and Mackenzie, J.S. (1991). Genetically controlled resistance to flaviviruses in mice: allelism at the *Flv* locus. *Mouse Genome* **89**, 849-850.

6. Urosevic, N., Sangster, M.Y., Mansfield, J.P., Mackenzie, J.S., and Shellam, G.R. (1992). Flavivirus resistance (*Flv*<sup>r</sup>) gene in mice: mapping studies. *Arbovirus Res. Aust.* **6**, 130-134.
7. Sangster, M.Y., Heliams, D.B., Mackenzie, J.S., and Shellam, G.R. (1993). Genetic studies of flavivirus resistance in inbred strains derived from wild mice: evidence for a new resistance allele at the flavivirus resistance locus (*Flv*). *J. Virol.* **67**, 340-347.
8. Shellam, G.R., Urosevic, N., Sangster, M.Y., Mansfield, J.P., and Mackenzie, J.S. (1993). Characterization of allelic forms at the retinal degeneration (*rd*) and -glucuronidase (*Gus*) loci for the mapping of the flavivirus resistance (*Flv*) gene on mouse chromosome 5. *Mouse Genome* **91**, 572-574.
9. Sangster, M.Y., Urosevic, N., Mansfield, J.P., Mackenzie, J.S., and Shellam, G.R. (1994). Mapping the *Flv* locus controlling resistance to flaviviruses on mouse chromosome 5. *J. Virol.* **68**, 448-452.
10. Sarawar, S.R., Sangster, M., Coffman, R.L., and Doherty, P.C. (1994). Administration of anti-IFN- antibody to -microglobulin-deficient mice delays influenza virus clearance but does not switch the response to a Th2 phenotype. *J. Immunol.* **153**, 1246-1253.
11. Hyland, L., Sangster, M., Sealy, R., and Coleclough, C. (1994). Respiratory viral infection of mice provokes a permanent humoral immune response. *J. Virol.* **68**, 6083-6086.
12. Sangster, M., Hyland, L., Sealy, R., and Coleclough, C. (1995). Distinctive kinetics of the antibody-forming cell response to Sendai virus infection in different anatomical compartments. *Virology* **207**, 287-291.
13. Mo, X.Y., Sangster, M., Sarawar, S., Coleclough, C., and Doherty P.C. (1995). Differential antigen burden modulates the IFN- but not the Ig response in mice that vary in susceptibility to Sendai virus pneumonia. *J. Virol.* **69**, 5592-5598.
14. Sangster, M., Smith, F.S., Coleclough, C, and Hurwitz, J.L. (1995). Human parainfluenza virus-type I immunization of infant mice protects from subsequent Sendai virus infection. *Virology* **212**, 13-19.
15. Topham, D.J., Tripp, R.A., Sarawar, S.R., Sangster, M.Y., and Doherty, P.C. (1996). Immune CD4<sup>+</sup> T cells promote the clearance of influenza virus from major histocompatibility complex Class II -/- respiratory epithelium. *J. Virol.* **70**, 1288-1291.
16. Shimoda, K., van Deursen, J., Sangster, M.Y., Sarawar, S.R., Carson, R.T., Tripp, R.A., Chu, C., Quelle, F.W., Nosaka, T., Vignali, D.A.A., Doherty, P.C., Grosveld,

- G., Paul, W.E., and Ihle, J.N. (1996). Lack of IL-4-induced T<sub>h</sub>2 response and IgE class switching in mice with disrupted *Stat6* gene. *Nature* **380**, 630-633.
17. Thierfelder, W.E., van Deursen, J., Yamamoto, K., Tripp, R.A., Sarawar, S.R., Carson, R.T., Sangster, M.Y., Vignali, D.A.A., Doherty, P.C., Grosveld, G.C., and Ihle, J.N. (1996). Requirement for Stat4 in interleukin-12-mediated responses of natural killer and T cells. *Nature* **382**, 171-174.
  18. Hall, R.A., Brand, T.N.H., Lobigs, M., Sangster, M.Y., Howard, M.J., and Mackenzie, J.S. (1996). Protective immune responses to the E and NS1 proteins of Murray Valley encephalitis virus in hybrids of flavivirus-resistant mice. *J. Gen. Virol.* **77**, 1287-1294.
  19. Mo, X.Y., Tripp, R.A., Sangster, M.Y., and Doherty, P.C. (1997). The cytotoxic T-lymphocyte response to Sendai virus is unimpaired in the absence of gamma interferon. *J. Virol.* **71**, 1906-1910.
  20. Mo, X.Y., Sangster, M.Y., Tripp, R.A., and Doherty, P.C. (1997). Modification of the Sendai virus-specific antibody and CD8<sup>+</sup> T-cell responses in mice homozygous for disruption of the interleukin-4 gene. *J. Virol.* **71**, 2518-2521.
  21. Hurwitz, J.L., Soike, K.F., Sangster, M.Y., Portner, A., Sealy, R.E., Dawson, D.H., and Coleclough, C. (1997). Intranasal Sendai virus vaccine protects African green monkeys from infection with human parainfluenza virus-type 1. *Vaccine* **15**, 533-540.
  22. Sangster, M.Y., Mo, X.Y., Sealy, R., and Coleclough, C. (1997). Matching antibody class with pathogen type and portal of entry: cognate mechanisms regulate local isotype expression patterns in lymph nodes draining the respiratory tract of mice inoculated with respiratory viruses, according to virus replication competence and site of inoculation. *J. Immunol.* **159**, 1893-1902.
  23. Walker, W.S., Castrucci, M.R., Sangster, M.Y., Carson, R.T., and Kawaoka, Y. (1997). HEL-Flu: an influenza virus containing the hen egg lysozyme epitope recognized by CD4 T cells from mice transgenic for an TCR. *J. Immunol.* **159**, 2563-2566.
  24. Bunting, K.D., Sangster, M.Y., Ihle, J.N., and Sorrentino, B.P. (1998). Restoration of lymphoid function in Janus kinase 3-deficient mice by retroviral-mediated gene transfer. *Nature Med.* **4**, 58-64.
  25. Sangster, M.Y., Mackenzie, J.S., Potter, M., and Shellam, G.R. (1998). Genetically determined resistance to flavivirus infection in wild *Mus musculus domesticus* and other taxonomic groups in the genus *Mus*. *Arch. Virol.* **143**, 697-715.

26. Brown, M.P., Topham, D.J., Sangster, M.Y., Zhao, J., Flynn, K.J., Surman, S.L., Woodland, D.L., Doherty, P.C., Farr, A.G., Pattengale, P.K., and Brenner, M.K. (1998). Thymic lymphoproliferative disease after successful correction of CD40 ligand deficiency by gene transfer in mice. *Nature Med.* **4**, 1253-1260.
27. Shellam, G.R., Sangster, M.Y., and Urosevic, N. (1998). Genetic control of host resistance to flavivirus infection in animals. *Rev. Sci. Tech. Off. Int. Epiz.* **17**, 231-248.
28. Moriggl, R., Topham D.J., Tegland, S., Sexl, V., McKay, C., Wang, D., Hoffmeyer, A., van Deursen, J., Sangster, M.Y., Bunting, K.D., Grosveld, G.C., and Ihle, J.N. (1999). Stat5 is required for IL-2 induced cell cycle progression of peripheral T cells. *Immunity* **10**, 249-259.
29. Urosevic, N., Silvia, O.J., Sangster, M.Y., Mansfield, J.P., Hodgetts, S.I., and Shellam, G.R. (1999). Development and characterisation of new flavivirus resitant mouse strains bearing *Flv<sup>r</sup>*-like and *Flv<sup>m</sup>* alleles from wild or wild-derived mice. *J. Gen. Virol.* **80**, 897-906.
30. Marshal, D., Sealy, R., Sangster, M., and Coleclough, C. (1999). T<sub>H</sub> cells primed during influenza virus infection provide help for qualitatively distinct antibody responses to subsequent infection. *J. Immunol.* **163**, 4673-4682.
31. Sangster, M.Y., Topham, D.J., D'Costa, S., Cardin, R.D., Marion, T.N., Myers, L.K., and Doherty, P.C. (2000). Analysis of the virus-specific and nonspecific B cell response to a persistent B-lymphotropic gammaherpesvirus. *J. Immunol.* **164**, 1820-1828.
32. Wang, D., Feng, J., Wen, R., Marine, J.-C., Sangster, M.Y., Parganas, E., Hoffmeyer, A., Jackson, C.W., Cleveland, J.L., Murray, P.J., and Ihle, J.N. (2000). Phospholipase C 2 is essential in the functions of B cell and several Fc receptors. *Immunity* **13**, 25-35.
33. Marshall, D.M., Turner, S.J., Belz, G.T., Wingo, S., Andreansky, S., Sangster, M.Y., Riberdy, J.M., Liu, T., Tan, M., and Doherty, P.C. Measuring the diaspora for virus-specific CD8<sup>+</sup> T cells. (2001). *Proc. Nat. Acad. Sci. USA* **98**, 6313-6318.
34. Doherty, P.C., Christensen, J.P., Belz, G.T., Stevenson, P.G., and Sangster, M.Y. Dissecting the host response to a herpesvirus. (2001). *Phil. Trans. R. Soc. Lond. B* **356**, 581-593.
35. Sangster, M.Y., Riberdy, J.M., Gonzalez, M., Topham, D.J., Baumgarth, N., and Doherty, P.C. An early CD4<sup>+</sup> T cell-dependent IgA response to influenza infection in the absence of key cognate T-B interactions. *J. Exp. Med.* **198** 1011 - 1021.

36. Lipatov, A.S., Andreansky, S., Webby, R.J., Hulse, D.J., Rehg, J. E., Krauss, S., Perez, D.R., Doherty, P.C., Webster, R.G., and Sangster, M.Y. (2005) Pathogenesis of Hong Kong H5N1 influenza virus NS gene reassortants in mice: the role of cytokines and B and T cell responses. *J. Gen. Virol.* **86**, 1121-1130
37. Zhang, Q., Cui, X., Sangster, M.Y., Marshall, D.R., Rehg, J.E., Xue, L., Doherty, P.C., and Morris, S.W. Selective hyperexpansion of marginal zone B cells in *E - BCL10* mice. In preparation.