



Stephan GASSER
Dr. Phil (Lausanne)
Assistant Professor
NUS Immunology Programme
Centre of Life Sciences
28, Medical Drive
Phone: 65167209
E-mail: micsg@nus.edu.sg



MAJOR RESEARCH INTERESTS

A major focus of our research is to understand the innate immune recognition of diseased cells such as virally infected cells and tumours. We are affiliated to several research institutes in Singapore and overseas, including the St. Jude Hospital and the University of California at Berkeley. Current projects include:

1. Activation of the immune system by senescent cells
2. Role of Natural Killer cells in chemotherapy of cancer
3. Induction of immunomodulatory molecules by DNA damage
4. The role of Polio virus receptor in cancer
5. Improvement of Natural Killer efficiency in clinical transfusion protocols
6. The role of p53 family members in NKG2D ligand expression

RECENT PUBLICATIONS

Gasser S., Corthesy P., Beerman F., MacDonald H. R., Nabholz M., Constitutive expression of a chimeric receptor that delivers IL-2/IL-15 signals allows antigen-independent proliferation of CD8⁺CD44^{high} but not other T cells. *J. Immunol.*, 2000, 164, 5659-67.

Trumpp A., Refaeli Y., Oskarsson T., **Gasser S.**, Murphy M., Martin G.R., Bishop J.M., c-Myc regulates mammalian body size by controlling cell number but not cell size. *Nature*, 2001, Dec 13; 414 (6865): 768-73.

Carlyle J.R., Jamieson A.M., **Gasser S.**, Clingan C.S., Arase H., Raulet D.H., Missing self-recognition of Ocl/Clr-b by inhibitory NKR-P1 natural killer cell receptors. *Proc. Natl. Acad. Sci. USA*, 2004, Mar 9; 101 (10): 3527-32.

Gasser S., Orsulic S., Brown E.J., Raulet D.H., The DNA damage pathway regulates innate immune system ligands of the NKG2D receptor. *Nature*, 2005, Aug 25; 436 (7054): 1186-90.

Bianchi T., **Gasser S.**, Trumpp A., MacDonald H.R., c-myc acts downstream of IL-15 in the regulation of memory CD8 T cell homeostasis. *Blood*, 2006, May 15;107 (10):3992-9.

Gasser S. and Raulet D.H., The DNA damage response arouses the immune system. *Cancer Research*, 2006, Apr 15, 66: 3959-62.

Gasser S. and Raulet D.H., The DNA damage response, immunity and cancer. *Sem. Cancer Biology*, 2006 Oct, 16 (5):344-7.

Gasser S. and Raulet D.H., Activation and self-tolerance of natural killer cells. *Immunol Rev.*, 2006 Dec, 214:130-42.

Gasser S. DNA damage response and development of targeted cancer treatments. *Annals of Medicine*, 2007;39(6):457-64.

Gasser S., Sullivan, B.M., Raulet D.H., Coscoy L., IRF3-mediated activation of NKG2D ligand expression in response to KSHV. Submitted.

Gasser S. NK cells, NKG2D and immunotherapy. *Frontiers in Bioscience*. Manuscript in preparation (Invited review).