

Dr Charlotte Inman BVSc, PhD, MRCVS

Research Fellow

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About

Charlotte Inman is a Research Fellow in the laboratory of Professor Paul Moss located in the School of Cancer Sciences. Charlotte's current work focuses on examining the immune responses against neoplastic cells in stem cell transplant patients (graft versus leukaemia responses).

Qualifications

- PhD in mucosal immunology, University of Bristol, 2007
- BVSc (distinction), University of Bristol, 2002.

Biography

Charlotte Inman graduated with a BVSc (Bachelor of Veterinary Science) in 2002 from the University of Bristol. She went on to study for a PhD in mucosal immunology, focusing on the effects of environment on immune development in the intestine. Following this, she completed a post-doctoral position based at the University of Bristol and the Institute for Animal Health using a germ-free pig model to examine the effects of intestinal colonisation on immune development.

After a short period of time spent working on the immune response to pandemic H1N1 2009 virus in pigs (at Bristol and at the Veterinary Laboratories Agency), she took up a post as a research fellow with Paul Moss in the School of Cancer Sciences.

The main focus of her work is on the immune response to leukaemia in stem cell transplant patients, in particular the response against minor histocompatibility antigens. Following on from work completed in her previous posts, she is also examining the effect of microenvironment on these responses.

Research

Research Themes

Stem cell transplantation, graft versus leukaemia responses, immune microenvironment, immune development, mucosal immunology.

Graft versus leukaemia responses

In order to improve understanding of the Graft versus leukaemia effect, it is critical to define the antigenic specificity of the cellular immune response. GvL is observed in the setting of allogeneic transplantation and the magnitude of the effect is correlated with the degree of histoincompatibility. This has led to the concept of minor histocompatibility antigens (mHag) as the primary targets for GvL responses. mHags induce an alloreactive T cell immune response the current focus of the work is on examining the magnitude and dynamics of these responses as well as the effects of immune microenvironment on them.

Publications

JE Croutace, **CF Inman**, B Abbotts, R Malladi, J Nunnick, S Nagra, C Craddock, PAH Moss. Chemokine mediated tissue recruitment of CXCR3+ CD4+ T-cells plays a major role in the pathogenesis of chronic Graft versus Host Disease. *Blood* 120:4246 (2012).

SM Williamson, AW Tucker, IS McCrone, CA Bidewell, N Brons, H Habernoll, SC Essen, IH Brown, **COSI**, JL Wood. Descriptive clinical and epidemiological characteristics of influenza A H1N1 2009 virus infections in pigs in England. *Vet Rec.* 171(11):271 (2012).

GM Laycock, L Sait, **C Inman**, M Lewis, H Smidt, P van Diemen, M Stevens, M Bailey. A defined intestinal colonization microbiota for gnotobiotic pigs. *Vet Imm Immunopath* 149 (3-4):216 (2012).

CF Inman, GM Laycock, L Mitchard, R Burt, P Vandiemmen, M Stevens, M Bailey. The effects of microbial colonisation on mucosal SIRPa dendritic cells precede the effects on B-cell and T-cell compartments. *PLoS One* 7(3):e33707 (2012).

E Lefevre, B Carr, **C Inman**, H Prentice, I Brown, S Brookes, F Garcon, M Hill, M Iqbal, R Elderfield, W Barclay, S Gubbins, M Bailey, B Charleston. Immune responses generated and protection to challenge in pigs vaccinated with adjuvanted and non-adjuvanted A(H1N1)pdm/09 influenza vaccines used in human immunization programmes. *PLoS One* 7(3):e32400 (2012).

M Lewis*, **CF Inman***, D Patel, B Schmidt, I Mulder, BP Gill, J Pluske, D Kelly, CR Stokes, M Bailey. Early-life influences regulation of immune responses in the piglet. *Ped. All. Imm.* 23:65 (2012)*Equal contribution.

CF Inman, T Murray, M Bailey, S Cose. Most B cells in non-lymphoid tissues are naïve. *Imm.Cell.Biol* 90:235 (2012).

CF Inman, S Singha, L Mitchard, M Lewis, K Haverson, B Bradley, C Stokes, M Bailey. Dendritic cells interact with CD4 T-cells in intestinal mucosa. *J.Leuk.Biol.* 88:571 (2010).

- CF Inman**, K Haverson, S Konstantinov, P Jones, C Harris, H Smidt, B Miller, M Bailey, C Stokes. Rearing environment affects development of the immune system in neonates. *Clin.Exp.Immunol.* 160:431 (2010).
- MC Lewis, **CF Inman**, M Bailey. Postnatal development of the mucosal immune system and consequences on health in adulthood. *Canadian Journal of Animal Science* 90:129 (2010).
- MA Birchall, M Bailey, D Gutowska-Owsiak, N Johnston, **CF Inman**, CR Stokes, G Postma, L Pazmany, JA Koufman, A Phillips, LE Rees Immunologic response of the laryngeal mucosa to extraesophageal reflux. *Ann Otol Rhinol Laryngol.* 117:891 (2008).
- L Rees, L Pazmany, D Gutowska-Owsiak, **C Inman**, A Phillips, C Stokes, N Johnston, J A Koufman, G Postma, M Bailey, M A Birchall. The Mucosal Immune Response to Laryngopharyngeal Reflux. *Am J Respir Crit Care Med.* 177:1187-93 (2008).
- C Inman**, J Bailey, S Cook, M Bailey. Interactions between immune cells and their microenvironment. *Vet. Immunol. Immunopathol.* 120:10 (2007).
- M Bailey, K Haverson, **C Inman**, C Harris, P Jones, G Corfield, B Miller, C Stokes The development of the mucosal immune system pre- and post-weaning: balancing regulatory and effector function. *Proc. Nutr. Soc.* 64:451 (2005).
- M Bailey, K Haverson, **C Inman**, C Harris, P Jones, G Corfield, B Miller, C Stokes The influence of environment on development of the mucosal immune system. *Vet. Immunol. Immunopathol.* 108:189 (2005).
- C Inman**, LEN Rees, E Barker, K Haverson, C Stokes, M Bailey. Validation of computer-assisted, pixel-based analysis of multiple- colour immunofluorescence histology. *Journal of Immunological Methods* 302:156-167 (2005).
- CR Stokes, M Bailey, K Haverson, C Harris, P Jones, **C Inman**, S Pie, IP Oswald, BA Williams, ADL Akkermans, E Sowa, HJ Rothkotter, BG Miller Postnatal development of intestinal immune system in piglets: implications for the process of weaning. *Animal Research* 53: 325-334 (2004).

