

Dr Francesca Barone MD, PhD

Wellcome Trust Clinician Scientist, Honorary Consultant in Rheumatology

School of Immunity and Infection

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About

Francesca Barone is a Wellcome Trust scientist working as Rheumatologist Consultant in UHB and Sandwell and West Birmingham Trusts.

Her main interest is in understanding the relationship between stromal cells and leukocyte in the development of chronic inflammatory process.

Qualifications

- PhD Medicine 2008
- Specialization as Rheumatologist 2007
- Medical Degree in 2001

Biography

During her undergraduate course in Italy, Francesca developed a strong interest in research and once obtained her degree she decided to suspend her clinical training to do a PhD. She move to London in the laboratory of Professor Pitzalis to investigate the mechanisms that regulate the acquisition of lymphoid organ features in the salivary gland inflammatory infiltrates of Sjogren's Syndrome patients, with particular focus on the factors that regulate lymphocyte organization and survival within the gland.

She obtained her Specialization and PhD in 2007 and 2008, respectively. She then embarked on a period of post-doctoral studies looking at the physiological biology of mucosal B cells, under the supervision of Doctor Jo Spencer at KCL. During this period she has also worked as Honorary Rheumatology Consultant in close contact with the Oral Medicine unit at Guy's Hospital in London.

In 2010 Francesca moved to Birmingham to study the mechanisms regulating leukocyte/stromal cell interaction in humans and animal models of inflammatory diseases. She obtained a Wellcome Trust Clinician Scientist fellowship in July 2010 to develop her research interest as clinician scientist and start her own independent group.

She works as Consultant Rheumatologist in the UHB and Sandwell and West Birmingham Trusts, with a main clinical interest in inflammatory arthritis and Sjogren's syndrome.

Teaching

Teaching Programmes

- [MBChB \(/undergraduate/courses/med/medicine.aspx\)](#) I1H (2nd year)

Postgraduate supervision

Francesca is interested in supervising doctoral research students in the following areas:

- Role and regulation of stromal cell function during inflammation and resolution
- Generation, organisation and maintenance of ectopic lymphoid structures in target organs of autoimmune disease
- Role of innate lymphoid cells in inflammation

If you are interesting in studying any of these subject areas please contact Francesca on the contact details above, or for any general doctoral research enquiries, please email: f.barone@bham.ac.uk (mailto:f.barone@bham.ac.uk)

For a full list of available Doctoral Research opportunities, please visit our Doctoral Research programme listings.

Research

RESEARCH THEMES

Inflammation, tertiary lymphoid structures, stromal cells, histological aspects of chronic inflammation in particular Sjogren's syndrome.

RESEARCH ACTIVITY

Francesca's research is focused on understanding the mechanisms regulating the complex interaction between stromal cells and leukocytes in different phases of the inflammatory process and its resolution.

Leukocyte stromal cell interaction in ectopic lymphoneogenesis

During organogenesis, the interaction between leukocytes and stroma is critical for stromal cell activation and formation of lymphoid organs. In target organs of autoimmune diseases the inflammatory cells infiltrating the tissue organized themselves in structures that closely resemble secondary lymphoid organs in a process called ectopic lymphoneogenesis. While physiologic lymphoneogenesis has been largely defined in its mechanisms, little is known about the cells/signals that regulate the formation of ectopic lymphoid structures during disease. Francesca research is aimed to understand using in vivo models of inflammation the mechanisms regulating the formation of ectopic lymphoid structures with particular emphasis on the signals that regulates the activation of stromal cells to the acquisition of a lymphoid-like phenotype.

Role of ectopic lymphoneogenesis in inflammation

The role of ectopic lymphoid structures in the dynamic of the inflammatory process is not clear. Some evidence even suggests that ectopic germinal centres might support lymphoma development during chronic inflammatory processes. Francesca group aim to understand the functional role of ectopic lymphoneogenesis in the balance between persistence and resolution of the inflammatory process and the role that stromal cells, including blood endothelial and lymphatic cells play in this process.

Other activities

Rheumatologist Consultant in UHB and Sandwell and West Birmingham Trusts.

Publications

Priori R, Barone F, Alessandri C, Colafrancesco S, McInnes IB, Pitzalis C, Valesini G, Bombardieri M. Markedly increased IL-18 liver expression in adult-onset Still's disease-related hepatitis. *Rheumatology (Oxford)*. 2010 Dec 13.

Francesca Barone*, Anna Vossenkamper*, Laurent Boursier, Wen Su, Alan Watson, Susan John, Deborah K. Dunn-Walters, Paul Fields, Sonali Wijetilleka, Jonathan D. Edgeworth and Jo Spencer. Immunoglobulin A-producing plasma cells originate from germinal centers that are induced by B-cell receptor activation in humans. *Gastroenterology* in press

Setti G, Hayward A, Dessapt C, Barone F, Buckingham R, White K, Bilous R, Hiroshi K, Gruden G, Viberti G, Gnudi L. Peroxisome proliferator-activated receptor- γ agonist rosiglitazone prevents albuminuria but not glomerulosclerosis in experimental diabetes. *Am J Nephrol*. 2010;32(5):393-402. Epub 2010 Sep 3.

Patel P, Barone F, Nunes C, Boursier L, Odell E, Escudier M, Challacombe S, Brostoff J, Spencer J, Sanderson J. Subepithelial dendritic B cells in orofacial granulomatosis. *Inflamm Bowel Dis*. 2009 Nov 18.

F. Barone, P. Patel, J. Sanderson, Jo Spencer. Gut-associated lymphoid tissue contains the molecular machinery to support T cell-dependent and T cell independent class switch recombination. *Mucosal Immunol*. 2009 Nov;2(6):495-503. Epub 2009 Sep 9.

Zhao Y, Dunn-Walters DK, Barone F, Spencer J. Antisense transcripts of V(D)J rearrangements; artifacts caused by false priming? *Mol Immunol*. 2009 Jul;46(11-12):2357-62. Epub 2009 Apr 28.

Spencer J, Barone F, Dunn-Walters D. Generation of Immunoglobulin diversity in human gut-associated lymphoid tissue. *Semin Immunol*. 2009 Feb 20.

Conigliaro P, Priori R, Bombardieri M, Alessandri C, Barone F, Pitzalis C, McInnes IB, Valesini G. Lymph node IL-18 expression in adult-onset Still's disease. *Ann Rheum Dis*. 2009 Mar;68(3):442-3.

