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ESF-EMBO Symposium

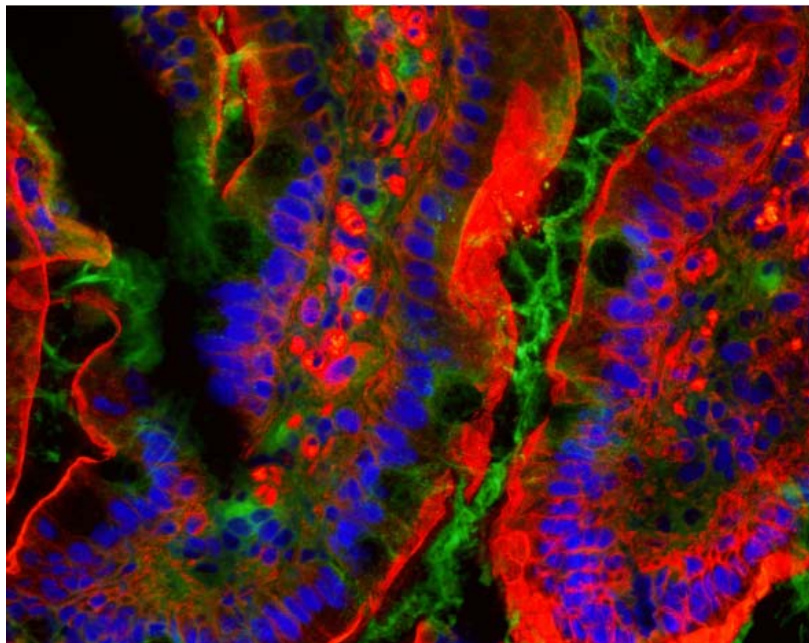
B Cells and Protection: Back to Basics

Hotel Eden Roc, Sant Feliu de Guixols (Costa Brava) • Spain
18-23 April 2010

With support from



Microbes populated the earth long before any eukariotic cell. Therefore, in order to survive, mono and multi-cellular organisms had to develop mechanisms of adaptation, cohabitation and defense against bacteria, fungi and viruses. One of these mechanisms is mediated by immunoglobulins in the serum and at mucosal surfaces. B cells and their antibodies, both natural and adaptive, play a fundamental role in the immediate and late defence against microbes and in the control of the commensal microflora. They also protect the organism from viruses neutralizing them before infection. Therefore, although over the last years B cells have been considered the mere executors of the orders derived by the complex interaction between antigen presenting cells and T cells, new attention is concentrating on the humoral response. For example, B cells are now the cellular target of a new generation of vaccines against HIV, the best known T cell virus. It has been found that B cells sense the environment not only through their unique B cell receptor, but also using the more promiscuous and evolutionary ancient TLRs. This mode of recognition does not need T cells, but efficiently induces B cell activation and differentiation. Signal transduction from the TLR is now studied also in B cells. Additional complexity to the B cell field has been brought about by the discovery of microRNA and their function in normal and neoplastic development. Finally, new techniques borrowed from the development of physics allow the in vivo study of lymphocytes movement and function. Using confocal and two-photon microscopy is also possible to visualize contacts and interactions at the molecular level and verify our biochemical knowledge of the B cell "inside world". New materials, such as nanoparticles and dendrimers, can be now used for vaccine development and a tight collaboration of biology and physics has started in order to define size, form, administration of new products and their cellular targets. The new findings in this field would be important also for companies interested in the prevention and therapy of infection and B-cell diseases. Our Conference Proposal has the aim of bringing together senior and young European scientists to discuss the newest findings with the hope of developing interests and collaborations. We also propose to invite to the conference the editors of 3 or 4 scientific journals with the highest impact factor. Most European scientists face difficulties in publishing in these journals. Apart from the quality of the manuscripts, we have the disadvantage that American science establishes trends and "fashion" indicating what is important to be published. This is partly due to the fact that the important immunological journals have the headquarters in the States and the editors, that decide whether an article is sent for review or not, are all young ex-scientists of American experience and background. Inviting the editors and organizing a mini symposium we hope to make them see and understand the type and quality of European science.



© R. Carsetti, Bambino Gesu Children Hospital, Rome, IT

Chair: Rita Carsetti, Bambino Gesu Children Hospital, Rome, IT

Co-Chair: Deborah K. Dunn-Walters, KCL School of Medicine, UK

Invited Speakers will include

Martin Bachmann - Cytos Biotech. AG, CH

Yehudit Bergman - HUJI, IL

Gail Bishop - Iowa City U., US

Nicolaas A. Bos - U. Groningen, NL

Andrew G. Bowie - Trinity College, IE

Michael Cancro - UPenn, US

Francesca Chiodi - Karolinska Inst., SE

Deborah Dunn-Walters - KCL School of Medicine, UK

Michael Ehrenstein - UCL London, UK

Hana Kozakova - Inst. of Microbiology, CZ

François Leulier - CGM, FR

Nils Lycke - Göteborg U., SE

Andrew Macpherson - McMaster U., CA

Lill Mårtensson-Bopp - Babraham Inst., UK

Maria Angeles Munoz-Fernandez - HGGM, ES

Almudena Ramiro - CNIO, ES

Maria Rescigno - IEO, IT

Yves-Jacques Schneider - UC Louvain, BE

Mikael Sigvardsson - Linköping U., SE

Jo Spencer - KCL School of Medicine, UK

Freda Stevenson - SUHT, UK

Mark Throsby - Merus, NL

Martin Turner - Babraham Institute, UK

Hedda Wardemann - MPI for Infection Biology, DE

Application form & programme available from

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Closing date for application **24 January 2010**

European Science Foundation | Research Conferences Unit
149 avenue Louise | Box 14 | Tour Generali, 15th Floor | Brussels | Belgium
Tel: + 32 (0)2 533 2020 | Fax: +32 (0)2 538 8486
Email: conferences@esf.org | www.esf.org/conferences