



Toby LAWRENCE, PhD

Group leader: Biology of Inflammation

Background

I completed my PhD in Experimental Pathology at The William Harvey Research Institute in London with Prof Derek Willoughby. During my PhD studies I identified a new role for the nuclear factor kappa-B (NF- κ B) pathway in the resolution of acute inflammation.

Following the award of consecutive fellowships from the Arthritis Research Campaign (ARC) and the Wellcome Trust, I performed post-doctoral studies with Prof Michael Karin at the Laboratory of Signal transduction and Gene Regulation, University of California San Diego, where I gained further training in signal transduction research and particularly the use of gene targeting to study cell signaling pathways *in vivo*. These post-doctoral studies focused on the role of NF- κ B and I κ B kinase (IKK) in inflammation and immunity and revealed a new anti-inflammatory role for IKK α (CHUK) in macrophages.

In 2004, I joined the Kennedy Institute of Rheumatology, Imperial College London, and continued to pursue research interests in cell signaling and the regulation of inflammation with a particular focus in rheumatology under the guidance of Prof Sir Marc Feldmann.

In 2006, I was awarded a MRC New Investigator Award and moved to the Centre for Cancer and Inflammation, Institute of Cancer at Barts and The London School of Medicine and Dentistry, where studies from our group identified common anti-inflammatory mechanisms in infection and cancer regulated by IKK β activation in macrophages.

In 2009, I was recruited by INSERM as Directeur de Recherche (DR2) with an AVENIR award and established the Inflammation Biology Group at Centre d'Immunologie Marseille Luminy (CIML). In 2011, I was awarded an ERC Starting Investigator Grant to pursue studies on the role of tumour-associated macrophages in cancer.

Awards

- 2011 ERC Starting Investigator Grant
- 2008 ISICR Seymour and Vivian Milstein Young Investigator Award
- 2008 EMBO Workshop Fellowship, NF- κ B in Development and Disease
- 2007 INSERM Avenir Award
- 2006 Medical Research Council (MRC) New Investigator Award
- 2002 Wellcome Trust International Research Fellowship
- 2001 Arthritis Research Campaign Travelling Fellowship
- 2000 & 2002 C. Gordon Van Arman Scholarship for Excellence in Inflammation Research
- 2001 British Society of Rheumatology Young Investigator Award

Selected publications

- Lawrence T. Macrophages and NF- κ B in Cancer. *Curr Top Microbiol Immunol.* 2011; 349:171-84. PubMed PMID: 21080151.
- Fong CH, Bebien M, Didierlaurent A, Nebauer R, Hussell T, Broide D, Karin M, Lawrence T. An antiinflammatory role for IKKbeta through the inhibition of "classical" macrophage activation. *J Exp Med.* 2008 Jun 9;205(6):1269-76. Epub 2008 May 19. PubMed PMID: 18490491; PubMed Central PMCID: PMC2413025.
- Hagemann T, Lawrence T., McNeish I, Charles KA, Kulbe H, Thompson RG, Robinson SC, Balkwill FR. "Re-educating" tumor-associated macrophages by targeting NF-kappaB. *J Exp Med.* 2008 Jun 9;205(6):1261-8. Epub 2008 May 19. PubMed PMID:18490490; PubMed Central PMCID: PMC2413024.
- Hagemann T, Balkwill F, Lawrence T. Inflammation and cancer: a double-edged sword. *Cancer Cell.* 2007 Oct; 12(4):300-1. PubMed PMID: 17936555; PubMed Central PMCID: PMC2592547.
- Karin M, Lawrence T., Nizet V. Innate immunity gone awry: linking microbial infections to chronic inflammation and cancer. *Cell.* 2006 Feb 24;124(4):823-35. Review. PubMed PMID: 16497591.
- Lawrence T., Bebien M, Liu GY, Nizet V, Karin M. IKKalpha limits macrophage NF-kappaB activation and contributes to the resolution of inflammation. *Nature.* 2005 Apr 28;434(7037):1138-43. PubMed PMID: 15858576.
- Lawrence T., Gilroy DW, Colville-Nash PR, Willoughby DA. Possible new role for NF-kappaB in the resolution of inflammation. *Nat Med.* 2001 Dec;7(12):1291-7. PubMed PMID: 11726968.