University of Birmingham

Dr Christopher Dawson

Senior Research Fellow

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About

Chris Dawson is a Senior Research Fellow working in the School of Cancer Sciences.

Working with Professor Lawrence Young, Chris has published numerous research papers in scientific journals as well as reviews and book chapters in the field of viral oncology. As a co-applicant with Professor Young he has received major grants from Cancer Research UK.

Qualifications

- PhD Cancer Studies 1993
- BSc (Hons) Biological Sciences 1983

Biography

Chris Dawson qualified with a BSc (Hons) in Biological Sciences from the University of Warwick in 1983. He joined the Department of Cancer Studies in 1984 and, after a number of years working as a technician/research associate, registered for a PhD; this was completed in 1993. Working with Professor Lawrence Young he has continued to work in Birmingham studying the role of Epstein-Barr virus (EBV) in the pathogenesis of epithelial cancers.

Teaching

Teaching Programmes

- **Medical Science BMedSc (/undergraduate/courses/med/medical-sci.aspx)**
- **Clinical Oncology MSc/Diploma (/postgraduate/courses/taught/med/clinical-oncology.aspx)**

Postgraduate supervision

Chris is interested in supervising doctoral research students in the role of EBV in pathogenesis of nasopharyngeal carcinoma and gastric carcinoma.

If you are interesting in studying any of these subject areas please contact Chris on the contact details above, or for any general doctoral research enquiries, please email: **dr@contacts.bham.ac.uk (mailto:dr@contacts.bham.ac.uk)** or call +44 (0)121 414 5005. For a full list of available Doctoral Research opportunities, please visit our Doctoral Research programme listings.

Research

RESEARCH THEMES
Cancer Cell Biology, Viral Oncology

RESEARCH ACTIVITY
Epstein-Barr virus (EBV)
The main emphasis of his work over the last 27 years has been on the role of EBV in pathogenesis of nasopharyngeal carcinoma. This work has ranged from the examination of EBV gene expression in these tumours to functional analysis of individual EBV latent genes and the impact of EBV infection on epithelial cell growth transformation. The contribution of EBV strain variation to tumour development has also been studied. Key discoveries include: (i) the existence of different forms of EBV latency in virus-associated tumours; (ii) the first demonstration of the pattern of EBV gene expression in nasopharyngeal carcinoma; and (iii) the signalling function of EBV-encoded latent proteins. These studies have also lead to insights into epithelial cell biology particularly the role of CD40, a member of the tumour necrosis factor (TNF) receptor family which is mimicked by LMP1, in the growth and differentiation of epithelial cells.

Publications

1. O Neil, J.D., Owen, T.J., Wood VH, Date, K., Valentine, R., Chukwuma, M., Arrand, J.R., Dawson, C.W. and Young, L.S. (2008) Epstein-Barr virus-encoded EBNA1 modulates the AP-1 transcription factor pathway in nasopharyngeal carcinoma cells and enhances angiogenesis in vitro. J. Gen. Virol. 89:2833-2842.

2. Morris, M.A., Dawson, C.W., Wei, W., O Neil, J.D., Stewart, S.E., Jia, J., Bell, A.I., Young, L.S. and Arrand, J.R. (2008) The Epstein-Barr virus (EBV)-encoded LMP1

induces a hyperproliferative and inflammatory gene expression programme in cultured keratinocytes. J. Gen. Virol. 89:2806-2820.

3. Bose S, Yap LF, Fung M, Starzcynski J, Saleh A, Morgan S, Dawson C, Chukwuma MB, Maina E, Buettner M, Wei W, Arrand J, Lim PV, Young LS, Teo SH, Stankovic T, Woodman C.B. and Murray, P.G. (2009) The ATM tumour suppressor gene is down-regulated in EBV-associated nasopharyngeal carcinoma. J. Pathol. 217:345-352.

4. Morris, M.A., Dawson, C.W. and Young, L.S. (2009) Role of the Epstein-Barr virus-encoded latent membrane protein-1, LMP1, in the pathogenesis of nasopharyngeal carcinoma. Future Oncol. 5:811-825.

5. Shah, K.M., Stewart, S.E., Wei, W., Woodman, C.B., O Neil, J.D., Dawson, C.W. and Young, L.S. (2009) The EBV-encoded latent membrane proteins, LMP2A and LMP2B, limit the actions of interferon by targeting interferon receptors for degradation. Oncogene 28:3903-3914.

6. Valentine, R., Dawson, C.W., Hu, C., Shah, K.M., Owen, T.J., Date, K.L., Maia, S.P., Shao, J.,Arrand, J.R., Young, L.S. and O Neil, J.D. (2010) Epstein-Barr virus-encoded EBNA1 inhibits the canonical NF-kappa-B pathway in carcinoma cells by inhibiting IKK phosphorylation. Mol. Cancer 9:1.

7.Upregulation of Id1 by Epstein-Barr virus-encoded LMP1 confers resistance to TGFbeta-mediated growth inhibition. Lo AK, Dawson CW, Lo KW, Yu Y, Young LS. Mol Cancer. 2010 Jun 18;9:155.

8. Owen, T.J., O'Neil, J.D., Dawson, C.W., Hu, C., Chen, X., Yao, Y., Wood, V.H., Mitchell, L.E., White, R.J., Young, L.S and Arrand, J.R.
(2010). Epstein-Barr virus-encoded EBNA1 enhances RNA polymerase III-dependent EBER expression through induction of EBER-associated cellular transcription factors. Mol. Cancer 9:241