Dr Tyson Sharp

Barts Cancer Institute
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Research Interests

My main research themes are in: MicroRNA and hypoxia signalling in cancer cell biology.

My research group focuses on:

- LIMD1, on chromosome 3p21.3 and often deleted in epithelial cancers, as a tumour suppressor, particularly in lung cancer.
- Identification of a novel mechanism for regulation of the hypoxic response involving LIMD1, which we believe will be very important in understanding this pathway's deregulation in tumourigenesis.
- Full molecular characterization of LIMD1.
- Understanding the function(s) of LIMD1 and its family member proteins (Ajuba and WTIP) and so understanding how loss of this important tumour suppressor(s) contributes to disease pathogenesis and specifically tumourigenesis.

Major Funders

- Barts and the London Charity
- Cancer Research UK
- Biotechnology and Biological Sciences Research Council

Contact Details

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Recent Publications

- The LIMD1 protein bridges an association between the prolyl hydroxylases and VHL to repress HIF-1 activity. Foxler DE, Bridge KS, James V, Webb TM, Mee M, Wong SC, Feng Y, Constantin-Teodosiu D, Petursdottir TE, Bjornsson J, Ingvarsson S, Ratcliffe PJ, Longmore GD, **Sharp TV**. *Nat Cell Biol.* 2012 Jan 29;14(2):201-8. doi: 0.1038/ncb2424.

- LIM-domain proteins, LIMD1, Ajuba, and WTIP are required for microRNA-mediated gene silencing. James V, Zhang Y, Foxler DE, de Moor CH, Kong YW, Webb TM, Self TJ, Feng Y, Lagos D, Chu CY, Rana TM, Morley SJ, Longmore GD, Bushell M, **Sharp TV.** *Proc Natl Acad Sci U S A*. 2010 Jul 13;107(28):12499-504.

- The chromosome 3p21.3-encoded gene, LIMD1, is a critical tumor suppressor involved in human lung cancer development. **Sharp TV**, Al-Attar A, Foxler DE, Ding L, de A Vallim TQ, Zhang Y, Nijmeh HS, Webb TM, Nicholson AG, Zhang Q, Kraja A, Spendlove I, Osborne J, Mardis E, Longmore GD. *Proc Natl Acad Sci U S A.* 2008 Dec 16;105(50):19932-7.

- Differential subcellular localisation of the tumour suppressor protein LIMD1 in breast cancer correlates with patient survival. Spendlove I, Al-Attar A, Watherstone O, Webb TM, Ellis IO, Longmore GD, **Sharp TV**. *Int J Cancer.* 2008 Nov 15;123(10):2247-53.

- LIM domains-containing protein 1 (LIMD1), a tumor suppressor encoded at chromosome 3p21.3, binds pRB and represses E2F-driven transcription. **Sharp TV**, Munoz F, Bourboulia D, Presneau N, Darai E, Wang HW, Cannon M, Butcher DN, Nicholson AG, Klein G, Imreh S, Boshoff C. *Proc Natl Acad Sci U S A*. 2004 Nov 23;101(47):16531-6.