

## Dr Victoria Heath MA, DPhil

Lecturer in Molecular Biology

### Contact details

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### About

Dr Victoria Heath works in the Molecular Angiogenesis group in collaboration with Prof Roy Bicknell. Her work is focused on identifying the roles of various endothelial expressed signalling molecules in endothelial cell biology and in the development of new blood vessels.

### Qualifications

- MA 1994
- DPhil 1997

### Biography

Victoria Heath is a Lecturer in Molecular Biology in the Institute of Biomedical Research at the University of Birmingham. She did her undergraduate studies in Natural Sciences at the University of Cambridge, followed by a DPhil in the MRC Cellular Immunology Unit in the Sir William Dunn School of Pathology at Oxford University. She then did post-doctoral work at both DNAX Research Institute in Palo Alto, California, working on cell signalling in T helper cell differentiation and at Stanford University on calcium signalling in budding yeast. She returned to the UK and worked as a Beit Memorial Fellow in the School of Biosciences at the University of Birmingham studying phosphoinositide signalling before taking up her current post working as part of the Molecular Angiogenesis group. Her work is focused on identifying the roles of various endothelial expressed signalling molecules in endothelial cell biology and in the development of new blood vessels.

### Teaching

#### Teaching Programmes

- [BMedSci \(undergraduate/courses/med/medical-sci.aspx\)](#)
- Foundation year
- Pharmacy

### Postgraduate supervision

Dr Heath is interested in supervising doctoral research students on the role of the Rho GTPase RhoJ as well other endothelial expressed genes in angiogenesis

If you are interesting in studying any of these subject areas please use the contact details above, or for any general doctoral research enquiries, please email: [dr@contacts.bham.ac.uk](mailto: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 \(http://www.bham.findaphd.com/?es=y&apl=y&aplt=&show\)](http://www.bham.findaphd.com/?es=y&apl=y&aplt=&show).

### Research

#### RESEARCH THEMES

Cardiovascular Sciences and Cancer biology

#### RESEARCH ACTIVITY

Dr Heath is interested in determining the role of novel endothelial expressed genes in endothelial cell biology and angiogenesis. Angiogenesis, the development of new blood vessels, plays a critical role in tumour growth and metastasis as well as in diseases such as atherosclerosis. A current interest of our group is to determine the biological role of RhoJ, a small Rho GTPase, in endothelial cells. This gene, which is closely related to Cdc42, is highly and specifically expressed in endothelial cells and is involved in regulating endothelial cell movement and in vitro tube formation. We are currently defining its role in vivo and determining its interacting partners and the signalling pathways in which it is involved.

### Publications

Kaur S, Leszczynska K, Abraham S, Scarcia M, Hiltbrunner S, Marshall CJ, Mavria G, Bicknell R, Heath VL. (2011) [RhoJ/TCL regulates endothelial motility and tube formation and modulates actomyosin contractility and focal adhesion numbers.](http://www.ncbi.nlm.nih.gov/pubmed/21148427) (http://www.ncbi.nlm.nih.gov/pubmed/21148427) *Arterioscler Thromb Vasc Biol.* 31:657-64

Verissimo AR, Herbert JM, Heath VL, Legg JA, Sheldon H, Andre M, Swain RK, Bicknell R. (2009) [Functionally defining the endothelial transcriptome, from Robo4 to ECSCR.](http://www.ncbi.nlm.nih.gov/pubmed/19909249) (http://www.ncbi.nlm.nih.gov/pubmed/19909249) *Biochem Soc Trans.* 37(Pt 6):1214-7.

Heath VL, Bicknell R. (2009) [Anticancer strategies involving the vasculature.](http://www.ncbi.nlm.nih.gov/pubmed/19424102) (http://www.ncbi.nlm.nih.gov/pubmed/19424102) *Nat Rev Clin Oncol.* 6:395-404.

Sheldon H, Andre M, Legg JA, Heal P, Herbert JM, Sainson R, Sharma AS, Kitajewski JK, Heath VL, Bicknell R. (2008) **Active involvement of Robo1 and Robo4 in filopodia formation and endothelial cell motility mediated via WASP and other actin nucleation-promoting factors.** (<http://www.ncbi.nlm.nih.gov/pubmed/18948384>) *FASEB J.* 23:513-22.

Armstrong LJ, Heath VL, Sanderson S, Kaur S, Beesley JF, Herbert JM, Legg JA, Poulosom R, Bicknell R. (2008) **ECSM2, an endothelial specific filamin a binding protein that mediates chemotaxis.** (<http://www.ncbi.nlm.nih.gov/pubmed/18556573>) *Arterioscler Thromb Vasc Biol.* 28:1640-6.

Herbert JM, Stekel D, Sanderson S, Heath VL, Bicknell R. (2008) **A novel method of differential gene expression analysis using multiple cDNA libraries applied to the identification of tumour endothelial genes.** (<http://www.ncbi.nlm.nih.gov/pubmed/18394197>) *BMC Genomics.* 9:153.

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