

Dr Peter Hewett

Lecturer

Cardiovascular and Respiratory Sciences

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About

Peter Hewett is a lecturer in vascular and reproductive biology. His interests include the regulation of endothelial genes involved in vascular development, remodelling and homeostasis and how they may impact in pathologies such as diabetes, atherosclerosis, obesity, pre-eclampsia and cancer. He teaches various aspects of applied reproductive biology, pregnancy, transgenesis and molecular biology.

Qualifications

- PhD Biochemistry, 1994
- BSc (Tech Hons) Applied Biology, 1990

Biography

Peter Hewett qualified with a BSc (Tech Hons) in Applied Biology from the University of Wales College Cardiff (formally UWIST) in 1990. He went on to study for a PhD focusing on tumour vascular targeting at the CRC Gray Laboratory, London. In 1994 Peter took up a post doctoral research position in the Academic Department of Clinical Oncology at the University of Nottingham. He moved to Birmingham to join Reproductive and Vascular Biology in 2001 and was appointed as a lecturer later that year.

Teaching

BMedSc.

- 3rd year Module coordinator, teaching and practicals on the Reproduction and Development module.
- 2nd year lectures and SGTs on Endocrine and Reproductive Sciences and Experimental Methods modules.
- Supervision of BMedSc final year research projects.

MBChB

- 2nd year Deputy module coordinator, Teaching and SGT lead on the Reproduction Endocrine and Development module.
- Personal mentor

Postgraduate supervision

- Supervision of PhD/MPhil students
- PhD assessment panel for CEM Reproduction, Genes and Development theme.
- Post-Graduate Student Mentor

Research

Dr Hewett's research is focused on the molecular regulation of angiogenic factors and cognate receptors (e.g. vascular endothelial cell growth factors/VEGF), which play key roles in blood vessel growth and function. Many of these factors are also associated with poor outcome in pathologies such as atherosclerosis, diabetes, pre-eclampsia and cancer making them attractive targets for therapy. Understanding the molecular events leading to the transcription of these genes in vascular cells following insults such as oxidative stress and hyperglycaemia may provide new targets for therapeutic intervention.

Peter is also interested the regulation of endothelial-restricted genes by members of the Ets family of transcription factors and novel approaches to selectively modulate target gene expression.

Other activities

- 2009-date: Management Committee and Laboratory coordination for the StAmP (statins for the amelioration of pre-eclampsia) clinical trial.

Publications

- Cudmore MJ, Ahmad S, Sissaoui S, Ramma W, Ma B, Fujisawa T, Al-Ani B, Wang K, Cai M, Crispi F, Hewett PW, Gratacós E, Egginton S, Ahmed A. (2011) **Loss of Akt activity increases circulating soluble endoglin release in preeclampsia: identification of inter-dependency between Akt-1 and heme oxygenase-1.** (<http://www.ncbi.nlm.nih.gov/pubmed/21411816>) *Eur Heart J*. [Epub ahead of print].
- Al-Ani B, Hewett PW, Cudmore MJ, Fujisawa T, Saifeddine M, Williams H, Ramma W, Sissaoui S, Jayaraman PS, Ohba M, Ahmad S, Hollenberg MD, Ahmed A. (2010) **Activation of proteinase-activated receptor 2 stimulates soluble vascular endothelial growth factor receptor 1 release via epidermal growth factor receptor transactivation in endothelial cells.** (<http://www.ncbi.nlm.nih.gov/pubmed/20124108>) *Hypertension*. 2010 55(3):689-97.
- Ahmad S, Cudmore MJ, Wang K, Hewett P, Potluri R, Fujisawa T, Ahmed A. (2010) **Angiopietin-1 induces migration of monocytes in a tie-2 and integrin-independent manner.** (<http://www.ncbi.nlm.nih.gov/pubmed/20696992>) *Hypertension* 56(3):477-83.
- Ahmed A, Fujisawa T, Niu XL, Ahmad S, Al-Ani B, Chudasama K, Abbas A, Potluri R, Bhandari V, Findley CM, Lam GK, Huang J, Hewett PW, Cudmore M, Kontos CD. (2009) **Angiopietin-2 confers Atheroprotection in apoE^{-/-} mice by inhibiting LDL oxidation via nitric oxide.** (<http://www.ncbi.nlm.nih.gov/pubmed/19461044>) *Circ Res*. 104:1333-6.
- Hewett PW. (2009) **Vascular endothelial cells from human micro- and macrovessels: isolation, characterisation and culture.** (<http://www.ncbi.nlm.nih.gov/pubmed/19301666>) *Methods Mol Biol*. 467:95-111.
- Zhou CC, Ahmad S, Mi T, Xia L, Abbasi S, Hewett PW, Sun C, Ahmed A, Kellems RE, Xia Y. (2007) **Angiotensin II induces soluble fms-Like tyrosine kinase-1 release via calcineurin signaling pathway in pregnancy.** (<http://www.ncbi.nlm.nih.gov/pubmed/17158338>) *Circ Res*. 100(1):88-95.
- Cudmore M, Ahmad S, Al-Ani B, Fujisawa T, Coxall H, Chudasama K, Devey LR, Wigmore SJ, Abbas A, Hewett PW, and Ahmed A (2007) **Negative regulation of soluble Flt-1 and soluble endoglin release by heme oxygenase-1.** (<http://www.ncbi.nlm.nih.gov/pubmed/17389265>) *Circulation* 115(13):1789-97.
- Hewett PW, Daft EL, Laughton CA, Ahmad S, Ahmed A and Murray JC (2006) Selective inhibition of the human tie-1 promoter with triplex forming oligonucleotides targeted to Ets binding sites. *Mol. Med*. 12:8-16.

