

Emeritus Professor Ian Hart

Barts
Cancer Institute
Queen Mary, University of London



Research Interests

My major research areas include Adhesion and Integrins, Angiogenesis, Cancer Cell Biology and Metastasis & Invasion.

My research group at Barts focused on how malignant cancers are able to invade, spread and metastasise and we aim to understand better:

- How tumour cells progress and spread throughout the body.
- How stromal cell modification of metastatic spread can occur.
- How cytoadhesion, both cell-to-cell and cell-to-substrate, impacts upon cancer cell invasion and tumour dissemination.

These themes are continued in the Institute's Centre for Tumour Biology, of which I was previously the Lead.

Major Funders

- Breast Cancer Campaign
- Cancer Research UK
- MRC



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Key Publications

- Clinical and functional significance of $\alpha 9\beta 1$ integrin expression in breast cancer: a novel cell-surface marker of the basal phenotype that promotes tumour cell invasion. Allen MD, Vaziri R, Green M, Chelala C, Brentnall AR, Dreger S, Vallath S, Nitch-Smith H, Hayward J, Carpenter R, Holliday DL, Walker RA, **Hart IR**, Jones JL. *J Pathol*. 2011; 223(5): 646-58.
- Tumour angiogenesis is reduced in the Tc1 mouse model of Down's syndrome. Reynolds LE, Watson AR, Baker M, Jones TA, D'Amico G, Robinson SD, Joffre C, Garrido-Urbani S, Rodriguez-Manzaneque JC, Martino-Echarri E, Aurrand-Lions M, Sheer D, Dagna-Bricarelli F, Nizetic D, McCabe CJ, Turnell AS, Kermorgant S, Imhof BA, Adams R, Fisher EM, Tybulewicz VL, **Hart IR**, Hodivala-Dilke KM. *Nature*. 2010 Jun 10; 465(7299): 813-7.
- High-resolution in vivo imaging of breast cancer by targeting the pro-invasive integrin $\alpha v\beta 6$. Saha A, Ellison D, Thomas GJ, Vallath S, Mather SJ, **Hart IR**, Marshall JF. *J Pathol*. 2010 Sep; 222(1) : 52-63.
- Ezrin interacts with cortactin to form podosomal rosettes in pancreatic cancer cells. Kocher HM, Sandle J, Mirza TA, Li NF, **Hart IR**. *Gut*. 2009 Feb; 58(2): 271-84.
- $\alpha 3\beta 1$ integrin-controlled Smad7 regulates reepithelialization during wound healing in mice. Reynolds LE, Conti FJ, Silva R, Robinson SD, Iyer V, Rudling R, Cross B, Nye E, **Hart IR**, Dipersio CM, Hodivala-Dilke KM. *J Clin Invest*. 2008 Mar; 118(3): 965-74.



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