Professor Kairbaan Hodivala-Dilke

Barts Cancer Institute
Queen Mary University of London

Research Interests

My main research interest is in angiogenesis, the formation of new blood vessels from pre-existing ones, essential for tumour growth and metastasis, and a logical target for cancer treatment. Our overall goal is to discover novel therapeutic vascular targets to modulate blood vessel growth in the control of cancer.

My research group focuses on:

- Exploiting the features of low doses of αvβ3 inhibitors on upregulating angiogenesis for the treatment of cancer;
- Molecular mechanisms underlying angiogenesis using endothelial-, pericyte and lymphatic-specific knockout and knockin systems in mouse models of cancer.
- Novel mechanisms to modulate the vasculature for the benefit of cancer therapy

Major Funders

- Cancer Research UK
- Medical Research Council
- Association of International Cancer Research
- Breast Cancer Campaingn

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Recent Publications

- Kostourou V, Lechertier T, Ramjaun AR, Jones DT, Baker M, Birdsey G, Reynolds LE, Tavora B, Robinson SD, Parsons M, Randi AM, Hart IR, and **Hodivala-Dilke KM.** Reduced levels of Focal Adhesion Kinase expression enhance pathological angiogenesis. *Nature Communications.* 2013;4:2020.

- Tavora B, Batista S, Reynolds LE, Jadeja S, Robinson S, Kostourou V, Hart I, Fruttiger M, Parsons M, **Hodivala-Dilke KM**. Endothelial FAK is required for tumour angiogenesis. *EMBO Molecular Medicine* 2010; 2:516-528.

- 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**. Tumour angiogenesis is reduced in the Tc1 mouse model of Down's syndrome. *Nature* 2010; 465: 813-817.

- Reynolds AR, Hart IR, Watson AR, Welti JC, Silva RG, Robinson SD, Da Violante G, Gourlaouen M, Salih M, Jones MC, Jones DT, Saunders G, Kostourou V, Perron-Sierra F, Norman JC, Tucker GC, **Hodivala-Dilke KM**. Stimulation of tumor growth and angiogenesis by low concentrations of RGD-mimetic integrin inhibitors. *Nature Medicine* 2009; 15: 392-400.

- Reynolds LE, Wyder L, Lively JC, Taverna D, Robinson SD, Huang X, Sheppard D, Hynes RO, **Hodivala-Dilke KM**. Enhanced pathological angiogenesis in mice lacking β3-integrin or β3- and β5-integrins. *Nature Medicine* 2002; 8: 27-34.