

# Professor Sir Nick Wright

Barts  
Cancer Institute  
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## Research Interests

My research interests are stem cell biology in human tissues, with the aim of understanding the role of stem cells in the maintenance of normal tissue architecture and the progression to malignancy.

My research group focuses on:

- Using mutations in mitochondrial and genomic DNA as clonal markers, combined with the analysis of methylation patterns in non-expressed genes (i) to locate the stem cell niche in a number of tissues, including the prostate, gastrointestinal and liver epithelia; and (ii) to explore clonal expansion of mutant clones in Barrett's oesophagus, gastric intestinal metaplasia and colorectal adenomas.
- To follow the development of pre-tumour clones in the colon during pre-neoplastic evolution in Crohn's disease and ulcerative colitis.
- Clonal evolution in colorectal adenomas and inflammation-associated cancer
- The design of methods to explore neutral drift in stem cell divisions in normal human tissues.

## Major Funders

- Cancer Research UK

## Contact Details

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## Recent Publications

- Lineage tracing reveals multipotent stem cells maintain human adenomas and the pattern of clonal expansion in tumor evolution. Humphries A, Cereser B, Gay LJ, Miller DS, Das B, Gutteridge A, Elia G, Nye E, Jeffery R, Poulson R, Novelli MR, Rodriguez-Justo M, McDonald SA, **Wright NA**, Graham TA. Proc Natl Acad Sci USA. 2013 Jul 2; 110(27): E2490-9
- Barrett's metaplasia glands are clonal, contain multiple stem cells and share a common squamous progenitor. Nicholson AM, Graham TA, Simpson A, Humphries A, Burch N, Rodriguez-Justo M, Novelli M, Harrison R, **Wright NA**, McDonald SA, Jankowski JA. Gut. 2012 Oct;61(10):1380-9. PMID: 22200839
- Field cancerization in the intestinal epithelium of patients with Crohn's ileocolitis. Galandiuk S, Rodriguez-Justo M, Jeffery R, Nicholson AM, Cheng Y, Oukrif D, Elia G, Leedham SJ, McDonald SA, **Wright NA**, Graham TA. Gastroenterology. 2012 Apr;142(4):855-864. PMID: 22178590
- Use of methylation patterns to determine expansion of stem cell clones in human colon tissue. Graham TA, Humphries A, Sanders T, Rodriguez-Justo M, Tadrous PJ, Preston SL, Novelli MR, Leedham SJ, McDonald SA, **Wright NA**. Gastroenterology. 2011 Apr;140(4):1241-1250. PMID: 21192938
- Clonality assessment and clonal ordering of individual neoplastic crypts shows polyclonality of colorectal adenomas. Thirlwell C, Will OC, Domingo E, Graham TA, McDonald SA, Oukrif D, Jeffrey R, Gorman M, Rodriguez-Justo M, Chin-Aleong J, Clark SK, Novelli MR, Jankowski JA, **Wright NA**, Tomlinson IP, Leedham SJ. Gastroenterology. 2010 Apr;138(4):1441-54. PMID: 20102718



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