



# Professor Gail Risbridger

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Monash Biomedicine Discovery Institute  
Cancer Program

## OTHER PROGRAM AFFILIATIONS



Development and Stem Cells

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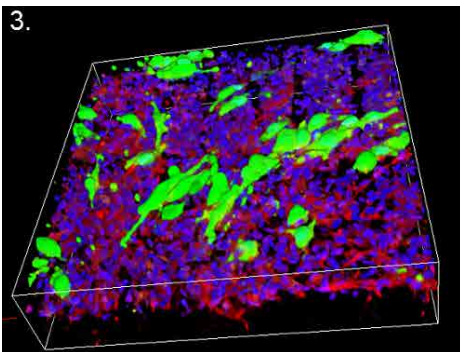
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**WEB** [med.monash.edu/anatomy/research/prostate-research.html](http://med.monash.edu/anatomy/research/prostate-research.html)

Approximately 50 per cent of Australian men experience some type of prostate problem during their lifetime, benign or malignant. Prostate cancer is one of the most common forms of cancer in men, affecting 1:6 men throughout their lifetime. Our group works closely with clinicians to develop a better understanding of the mechanisms that drive prostate cancer and benign disease, with the ultimate goal of providing better diagnosis and treatments for patients. Our research utilises state of the art techniques (eg. xenografting, bioengineered in vitro modelling, transgenic animal models) that allow us to examine the mechanisms that contribute to disease development and progression.

## Research Projects

1. *In vitro* modelling of the human prostate cancer microenvironment
2. Estrogen signalling and metabolism in prostate cancer
3. Epigenetic regulation of the tumour microenvironment
4. Patient derived xenograft models of prostate cancer for preclinical studies
5. Defining the features of familial and high risk prostate cancer
6. Novel combination therapies for prostate cancer that target the ribosome
7. Targeting the eukaryotic translation initiation factor 4E in prostate cancer



Imaris image of scaffold model



Intraductal carcinoma of the prostate (IDC-P; red): a distinct lesion associated with poor prognosis in patients with prostate cancer

## Selected significant publications:

1. **GP Risbridger**, RA Taylor, D Clouston, A Sliwinski, H Thorne, S Hunter, JLi, kConFab, GWE Mitchell, Murphy DGM, M Frydenberg, D Pook, J Pedersen, R Toivanen, H Wang, M Papargiris, MG Lawrence, DM Bolton. 2015. Patient-derived xenografts reveal that intraductal carcinoma of the prostate is a prominent pathology in BRCA2 mutation carriers with prostate cancer and correlates with poor prognosis. *European Urology*. 67(3):496-503.
2. I Takizawa, M Lawrence, P Balanathan, R Rebello, H Pearson, E Garg, J Pedersen, N Pouliot, R Nadon, M Watt, R Taylor, P Humbert, I Topisirovic, O Larsson, **GP Risbridger**, L Furic. 2015. Estrogen receptor alpha drives proliferation in PTEN-deficient prostate carcinoma by stimulating survival signaling, MYC expression and altering glucose sensitivity. *Oncotarget* 6(2):604-616.
3. Toivanen R, Frydenberg M, Murphy D, Pedersen J, Ryan A, Pook D, Berman DM, Australian Prostate Cancer BioResource, Taylor RA, **Risbridger GP**. 2013. A pre-clinical model identifies castration-tolerant cancer repopulating cells in localized prostate tumors. *Science Translational Medicine* 5(187):187ra71.
4. Clark AK, Taubenberger AV, Taylor RA, Niranjani B, Chea ZY, Zotenko E, Sieh S, Pedersen J, Norden S, Frydenberg M, Grummet J, Pook DW, Australian Prostate Cancer BioResource, Stirzaker C, Clark SJ, Lawrence MG, Ellem SJ, Huttmacher DW, **Risbridger GP**. 2013. A bioengineered microenvironment to quantitatively measure the tumorigenic properties of cancer-associated fibroblasts in human prostate cancer. *Biomaterials* 34(20):4777-4785.
5. MG Lawrence, RA Taylor, R Toivanen, J Pedersen, S Norden, DW Pook, M Frydenberg, Australian Prostate Cancer BioResource, MM Papargiris, B Niranjani, MG Richards, H Wang, AT Collins, NJ Maitland, **GP Risbridger**. 2013. A preclinical xenograft model of prostate cancer using human tumours. *Nature Protocols* 8(5):836-48.