

# Novel cancer therapies: blocking the cells that control tumour growth

Researchers at Hudson Institute have identified a mechanism by which cancer cells are able to invade and spread, and are targeting this in the treatment of cancer.

**Our team have identified a way to block tumour progression, stabilise disease, and prevent disease recurrence.**

## Summary

The Hudson team has discovered a molecule expressed by cancer cells that is critical for the implantation and invasion of tumours into underlying healthy tissue. Using *in vitro* and *in vivo* models, they have shown that blocking this molecule prevents invasion into the basement membrane level and thus prevents metastasis.

The team is developing this work towards a novel, effective anti-cancer strategy that can stabilise or regress disease and enhance the effectiveness of existing treatments for cancer. A direct inhibitor of metastasis will profoundly reduce cancer-related mortality, and will increase survival time for patients with primary or recurrent disease.

## Applications

Many tumour types employ this mechanism of invasion. Ovarian cancer is an example of particular need.

Ovarian cancer is the eighth most common cancer overall among women, and is the most common cause of death from a gynaecological cancer.

Current standard treatment options for women with ovarian cancer include surgery with chemotherapy. Because there is no early detection or screening test for ovarian cancer, most cases are diagnosed at an advanced stage of disease, when the 5-year survival rate is only 43%. In many cases disease is no longer confined to the ovaries and has spread to other organs in the peritoneal cavity. Approximately 75% of patients will relapse, often with chemotherapy-resistant disease which limits treatment options further. There is an urgent and unmet need for novel therapeutic options aimed at preventing the spread of metastatic disease, to improve the management and long-term survival of ovarian cancer patients.

## IP position

Provisional patent application filed.

## Development pathway

Our team have identified a lead candidate for inhibition of the target. They are currently seeking opportunities for co-investment, licensing or collaboration to further develop this cancer treatment program.

## Team

Our team is led by Dr Andrew Stephens, an Ovarian Cancer Research Foundation (OCRF) Research Fellow and head of Hudson's Ovarian Cancer Biomarkers research group. A leading authority on the application of proteomics technologies and a Senior Research Affiliate (Honorary) with Epworth Healthcare, Dr Stephens is one of Australia's foremost experts in the field of ovarian cancer research.

## Hudson Institute of Medical Research

Hudson Institute of Medical Research is a leading Australian medical research institute recognised internationally for research into reproductive health and pregnancy, infant and child health, inflammation and cancer. Our research programs span discovery science and translational research, and clinical trials.

Our worldwide scientific and medical collaborations provide a foundation for transformative healthcare programs across the globe, with our researchers leading developments in cell therapies, women's health, microbiome research, diagnostics, and cancer.

Partnership opportunities include:

- Therapeutics, including oncology and gene therapy
- Reproductive, women's and children's health
- Regenerative medicine
- Inflammation and immunology
- Diagnostics and biomarkers

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