ACRF ACCELERATE
An Impact Philanthropy Initiative

AUSTRALIAN CANCER RESEARCH FOUNDATION

Translating the cancer glyco-language into a new generation of precision diagnostics and therapies

The challenge and opportunity

Glycomics is the study of the carbohydrate, or sugar language, within our bodies. While essential for our health and wellbeing, these sugars also play a key role in tumour development and immunotherapy susceptibility. Until recently little has been known or understood about how a unique glyco-code drives cancer development and progression.

New advances in technology have paved the way to see interactions and understand this 'glyco-language', a critical but understudied area of research. With the funding they need for this essential enabling technology, brilliant cancer researchers will aim to develop novel lifesaving approaches for early detection, precision treatments and potentially prevent malignancy.

Project in brief

- The ACRF International Centre for Cancer Glycomics (ICCG) will be a hub of exciting and revolutionary cancer glycomics research, where world-leading experts will combine knowledge and skills to decipher the cancer-glyco code.
- The potential outcomes of the research are significant, from informing new diagnostics and immunotherapy approaches, to identifying new cancer biomarkers.
- Success of research will apply to all cancer types, but initial research will focus on ovarian, prostate, breast, head & neck and melanoma.
- ACRF ICCG will be based at Griffith University, Queensland.

Project costs

The $2.6M grant funded by ACRF will be used to purchase:

- The Orbitrap Eclipse Trimid Mass Spectrometer will enable researchers to analyse the cancer glycome in unprecedented detail ($1.3M).
- The Hyperion Imaging Mass CyTOF will allow researchers to see tumours at subcellular resolution to uncover new detail about cell interactions ($1.3M).

"This research will provide major advances in the early diagnosis of significant cancers, including skin, ovarian and breast cancer. The discovery and development of new drugs to treat these cancers will be another major outcome of this grant. "

Professor Mark von Itzstein, Chief Investigator

ACRF Impact Model

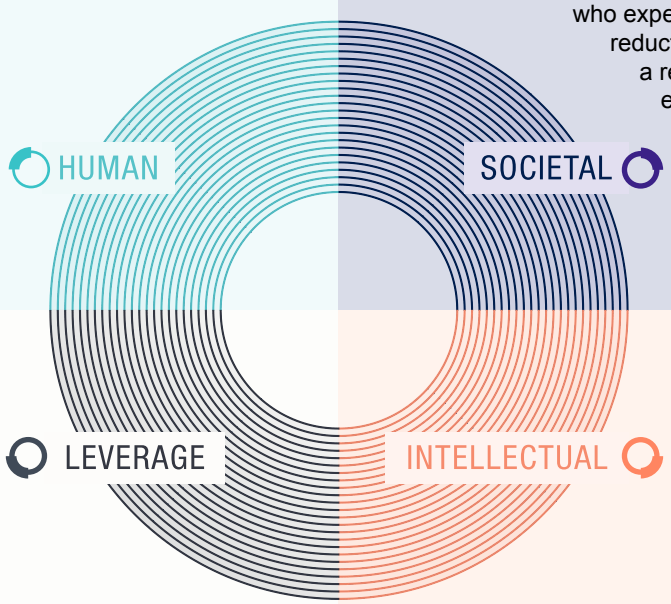
With input from health economics specialists, ACRF has developed a framework to articulate the anticipated future impact of projects that receive ACRF funding. Below is an overview of the outcomes the ACRF ICCG has the potential to achieve:

HUMAN

- Prevent early death in 911 women with ovarian cancer each year [5,12,13,14].
- Precision immunotherapy has the potential to benefit 7,863 Australians this year alone [8,9,10,11].

SOCIETAL

- Patients will experience 1.9 times longer Progression Free Survival (PFS) with improved precision immunotherapy, resulting in savings of $50.6M per week of PFS across all Australians with cancer [17].
- Reduce the burden on caregivers who experience an estimated 23% reduction in work productivity as a result of caregiving, costing employers approximately $12,784 per caregiver per year [15,16].



LEVERAGE

- Griffith University has pledged an additional $1M to the project.
- $2.6M invested by the ACRF alone has a potential return of $10.25M, with $6.83M in the form of health gains and $3.42M in wider economic gains [18].

INTELLECTUAL

- A core team of 11 Chief Investigators and 12 scientists and researchers has the potential to generate $515,900 in value added [18] and an estimated 30 international peer-reviewed publications [20].

For references, please visit acrf.com.au/philanthropy/accelerate-references

Contact information

For more detailed project information, or to make a contribution,
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