



MEDIA RELEASE

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PERSONALISED MEDICINE SET TO REVOLUTIONISE CHILDHOOD CANCER

-NEW TECHNOLOGY DRIVES RAPID DRUG DISCOVERY-

Children's Cancer Institute Australia for Medical Research (CCIA) today announced it is about to use a new million dollar drug-screening technology to develop new and improved treatments for childhood cancers.

The Australian Cancer Research Foundation donated \$3.1 million to establish the ACRF Drug Discovery Centre at the CCIA to help prevent the deaths of the three children in Australia that die from cancer each week.

The ACRF Drug Discovery Centre for Childhood Cancer located in the Lowy Cancer Research Centre at UNSW, houses customised robotic technology that enables one year's medical research to be completed in just days.

This robotic technology allows thousands of small molecule drugs to be rapidly screened to identify which ones have the potential to be developed into safer, more effective therapies that hit only on aggressive kids cancer cells, while sparing normal healthy tissue.

This drug screening technology is the only one of its kind in Australia devoted to childhood cancer research.

"The ACRF Drug Discovery Centre offers a huge advance in fast tracking critical research to find a cure for kids cancer," Professor Murray Norris, Director of the Drug Discovery Centre said.

"It took CCIA five years to manually search through thousands of potential drug candidates to find one of CCIA's most promising drugs in development for childhood cancer. With this drug screening robot we could potentially discover effective drug candidates within days," Professor Norris said.

Chair of the Australian Cancer Research Foundation Tom Dery said findings from the ACRF Drug Discovery Centre would lead to a new era of personalised medicine - treatment tailored to the genetic make-up of the patient.

"Personalised medicine is the future for cancer therapy," Mr Dery said.

"The days of the one-size-fits-all approach to medicine will one day be over, thanks to the work of researchers at facilities such as the ACRF Drug Discovery Centre."

"Personalised medicine means targeted drug treatments which ensure fewer long term side effects and better results, and that's the kind of outcome that motivates the people who so generously donate to the Australian Cancer Research Foundation," he said.

Very young children treated with current treatment protocols have a high risk of long term side effects including learning disorders and hearing impairment and potentially future cancers.

"Our work involves identifying genes that are abnormally switched on in a child's tumour and then finding a potential drug that can switch off, or change the behaviour of, that gene," Professor Norris said.

"For example, we have identified a gene that is switched on in children's cancers that respond badly, or are resistant, to chemotherapy. Once this gene is switched off, those children whose cancers have been resistant to traditional cancer therapies can now respond better to treatment.

"This new screening technology can save years of research and boost better outcomes for people with cancer," he said.

CCIA also has a children's tumour bank which houses over twenty years of children's tumour samples that are snap frozen and stored in nitrogen. This children's tumour bank plays a critical role in drug discovery.

Professor Michelle Haber AM, Executive Director of the CCIA said, "CCIA is committed to translating drug discoveries at the bench into real outcomes for children at the bedside, improving the quality of care as well as access to new technology.

"These things would not be possible without the support of organisations such as the Australian Cancer Research Foundation.

"CCIA also has a unique partnership with Sydney Children's Hospital Randwick which facilitates our bench to bedside pipeline allowing CCIA to be at the forefront of childhood cancer research," Professor Haber said.

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Images and VNR are available upon request. Photos/Filming in the labs can be arranged.

Interviews

Professor Murray Norris, Director of the Drug Discovery Centre for Childhood Cancer

Mr Tom Dery, Chair of the Australian Cancer Research Foundation

Family of child with cancer

Footage and images

Vision of the ACRF Drug Discovery Centre including robot technology available

<http://www.youtube.com/watch?v=wjGYlqvI0I0>.

VNR and Images are available upon request.

Children's Cancer Institute Australia (CCIA)

CCIA is the leading children's research centre and the only independent medical research institute in Australia dedicated to researching the causes, prevention, treatments and ultimately a cure for childhood cancer. Their mission is to be a leader in preventing and finding ways of curing cancer in children through world-class research. Their vision is to increase awareness, participation and funding to ensure the best possible quality of life for children and their families.

CCIA was founded more than three decades ago by two ordinary men with a passion. They each had a child diagnosed with leukaemia and knew not enough was being done to fight the deadly disease. After years of scientific effort and achievement, CCIA has built an outstanding foundation of capability and research outputs which are reflected in the Institute's international reputation and the critical acclaim and recognition of their research leaders.

CCIA is building on its strong relationship with Sydney Children's Hospital and has recently moved to a new purpose-built facility at the Lowy Cancer Research Centre to create a centre of excellence in paediatric oncology research.

Australian Cancer Research Foundation (ACRF)

One in three Australians will be told they have cancer. And the Australian Cancer Research Foundation is determined to help find the cures. ACRF supports high-level research into the prevention, diagnosis and treatment of all cancers by funding vital infrastructure.

Since 1984 – thanks to the generosity of the community – the ACRF has awarded more than \$61 million to respected Australian institutes; \$40 million of that in the past five years. All donations go directly to cancer research: www.acrf.com.au.

ACRF's Drug Discovery Technology:

ACRF's robotic drug discovery technology allows researchers to test up to hundred thousand small molecules on kid's tumour cells to find the rare and novel small molecule that will stop the cancer growth. Researchers took years to complete tests that the robot can do within a few days.

The robot uses 384 well tissue culture plates, each well containing 10-20,000 kid's tumour cells. Each well is tested with a small molecule that comes from a library of 160,000 small molecules.

Further details about the ACRF Drug Discovery Technology, named Ham, can be found at: <http://www.acrf.com.au/sneak-preview-of-new-research-centre/>