

Westmead Research Hub

The Westmead Research Hub combines the resources of two world-leading research institutes, two of the largest hospitals in the southern hemisphere, the largest pathology laboratory in NSW and an internationally renowned university to tackle many of the most common diseases affecting our community. The results of our research can rapidly affect the way we treat our patients and lead to better health outcomes.

Westmead Research Hub offers a full spectrum of medical research from basic research to translational and clinical research, and population health studies. It has one of the largest concentrations of biomedical, scientific and healthcare focused minds in Australia. Westmead is home to over 1,400 full-time equivalent (FTE) research staff, across four major institutes and numerous research centres, groups and networks. The majority of these are full-time researchers, including 170+ leading clinician scientists, with the remainder being research support staff. In 2015 Westmead researchers were awarded over \$79 million in Category 1 public medical research grants, and researchers at Westmead achieved a grant writing success rate of 22%, compared to a publicised national success rate of 14%.

Selected Unique Capabilities

- Sydney Centre for Cell and Gene Therapy: a GMP compliant facility supporting Pancreas Islet Transplantation, T cell adoptive immunotherapy and Gene Therapy.
- ProCan[®]: Industrial scale proteomics for diagnostic development and target discovery.
- Cell Bank Australia: Cell bank repository, including an exclusive partnership with ECACC, and cell line testing services.
- EPIC Lab: 3D Design and printing of novel orthopaedic implants for children with bone malformations or fractures.
- Vector and Genome Engineering Facility: state of the art technology to create vectors for the delivery of gene therapies into diseased tissue, and development of this technology.

THERAPUTIC OR DELIVERY					Discovery	InvitroPOC	InvivoPOC	Leadoptimisation	Pre-clinical	Clinical
Indication	Description	Lead / Owner	IP Status	Status						
HSCT transplantation	Methods & compositions for Adoptive T-cell therapy	USYD, WSLHD, WIMR	Provisional	Available	•	•	•	•	•	•
HSCT transplantation	Adoptive T-cell therapy targeting fungal infections post-HSCT	USYD, WSLHD, WIMR	Nat Phase	Available	•	•	•	•	•	
Gene delivery	Stable gene transfer system to proliferating cells	CMRI, SCHN	Nat Phase	Available	•	•	•			
Gene delivery	AAV Mini-promotor for efficient delivery of large genes to liver cells	CMRI, SCHN	PCT	Available	•	•	•			
Ventricular Arrhythmia	AAV Based gene therapy for Ventricular Arrhythmia	WSLHD, USYD, WIMR	Nat Phase	Available	•	•	•			
Cancer	Dynamin inhibitor co-treatment with a monoclonal antibody	CMRI, UQ, UoN	Provisional	Available	•	•				
Gene delivery	Novel AAV capsid peptide for gene delivery	CMRI, SCHN	Provisional	Available (non-excl)	•					
Gene delivery	Methods for codon optimisation	CMRI	Provisional	Available (non-excl)	•					
Gene delivery	Polynucleotides and vectors for the expression of transgenes	CMRI	Provisional	Available (non-excl)	•					
Multiple Myeloma	CAR T-Cell therapy	WSLHD, USYD, WIMR, CMRI	PCT	Partnered	•	•	•	•		
Kidney Disease	Use of Dynamin Ring Stabilisers as therapeutic for kidney disease	CMRI	Nat Phase	Partnered	•	•	•			
AMD	AAV based gene therapy for Age Related Macular Degeneration	Cambridge CMRI, SCHN	Provisional	Partnered	•					

MEDICAL DEVICES

Name	Description	Lead/Owner	IP Status	Status	Concept	POC	Prototype	Product Validation	Registration	Sales
Sure-Lock	Screw retention mechanism for orthopaedic screw drivers/handles	SCHN	PCT	Available	•	•	•			
RDN Catheter	Microwave catheter for renal artery denervation	USYD, WSLHD	Nat Phase	Available	•	•	•			
Monitoring Catheter	Catheter for monitoring and early detection of pericardial effusion	WSLHD	PCT	Available	•	•	•			
SyMaxys	Paediatric implant for osteogenesis imperfecta	SCHN	Nat Phase	Partnered	•	•	•	•		
Rifle Rod	Implantable device for correcting rotational deformities in children	SCHN	Nat Phase	Partnered	•	•	•	•		
Epic Plate	Implantable device for correcting angular deformities in children	SCHN	Nat Phase	Partnered	•	•	•			
PISTOL	Resorbable bone stent technology for fracture healing	SCHN	Nat Phase	Partnered	•	•	•			

DIAGNOSTICS

Name	Description	Lead/Owner	IP Status	Status	Concept	POC	Prototype	Product Validation	Registration	Sales
Fibrosis progression test	Genetic test for predicting rapid liver fibrosis progression	WSLHD, USYD	Nat Phase	Available	•	•	•	•		
ALT Assay (Cancer)	Alternative Lengthening of Telomeres (ALT) activity in cells	CMRI	Nat Phase	Available (non-excl)	•	•	•	•		
Motion correction software	Data-driven method for rigid motion correction in CT imaging	USYD, WSLHD, KUL	Nat Phase	Available	•	•				
Clusterin Diagnostic	Protein based diagnostic for allograft rejection	Mt Sanai, WSLHD, WIMR	Nat Phase	Available	•	•				
Telomere length (Cancer)	Algorithm for measurement of telomere length	CMRI	In Progress	Available	•					

The Westmead Research Hub partner organisation are:



Western Sydney Local Health District (WSLHD) & Sydney Children's Hospital Network



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