

Pharma, MedTech and Digital Health Innovation Pipeline | November 2023

THERAPEUTIC PROGRAMS

Disease area/program name	Indication/product	Modality	Mechanism of Action	Discovery	Hit to lead	Lead Optimisation	Pre-clinical	Clinical	Sales
Oncology									
Gardasil*	Cervical cancer	Vaccine	HPV-VLPs	●	●	●	●	●	●
Combination therapy for advanced ADCC	Cancers treated with targeted antibody therapies	Small molecule	Endocytosis inhibition	●	●	●	●	●	
Anti-CDCP1 antibody	Ovarian, pancreatic and colon cancer	Antibody	Antibody-drug conjugate or radio-therapeutic	●	●	●	●		
* QEDDI TRPV6 inhibitor	Prostate cancer	Small molecule	Novel TRPV6 ion channel inhibitor	●	●	●	●		
* QEDDI Immuno-dermatology	Squamous cell carcinomas in organ transplant recipients (OTRs)	Small molecule	Topical immune cell rescue for OTRs on immune-suppression	●	●	●	●		
* QEDDI OGT inhibitor	c-Myc driven cancers eg prostate cancer, SCLC, colon and TNBC	Small molecule	First-in-class OGT inhibitors	●	●				
C5a receptor agonist	Cancers and complement immune system disorders	Peptide	C5a receptor agonist	●	●				
PEG cell engager	Head, neck and breast cancer	Antibody	Multi-epitope targeting bispecific antibody cell engagers	●	●				
Pain									
Dual GABA _B agonist	Neuropathic pain	Peptide	First-in-class dual GABA _B agonist and α9α10 nAChR antagonist	●	●				
Nav1.7 (resting-state specific) inhibitor	Acute and chronic pain	Peptide	Inhibitor of resting-state (not slow-inactivated state) of Nav1.7	●	●				
Inflammation and Autoimmune									
NLRP3 inhibitor	Inflammation	Small molecule	Inflammasome NLRP3 inhibitor	●	●	●	●	●	
Targeted IL-22	NASH and type 2 diabetes	Biologic	Inhibit oxidative & ER stress, hepatic inflammation and fat accumulation	●	●				
Tolerising T1D specific liposome immunotherapy	Type 1 diabetes	Lipid nanoparticle	Antigen specific immune tolerance induction	●	●	●	●		
Tolerising RA specific liposome immunotherapy	Rheumatoid arthritis	Lipid nanoparticle	Antigen specific immune tolerance induction	●	●	●			
PGD2S inhibitor	Asthma, atopic dermatitis and Duchenne muscular dystrophy	Small molecule	PGD2 synthase inhibitor	●	●	●			
PAR2 modulator	Inflammation (IBD, psoriasis)	Small molecule	PAR2 antagonist	●	●	●			
Microbiome derived small molecule therapeutic	IBD	Small molecule	Novel NF-κβ inhibitor derived from gut microbial metabolite	●	●	●			
HDAC inhibitor	Rheumatoid arthritis	Small molecule	Class IIa selective HDAC inhibitor	●	●				
C3a modulator	Asthma	Small molecule	C3a receptor antagonist	●	●				
* QEDDI Caspase-1 inhibitor	Inflammatory disorders	Small molecule	Novel allosteric Caspase-1 inhibitors	●	●				
* QEDDI NLRP1 inhibitor	Inflammasome	Small molecule	Inflammasome NLRP1 inhibitors	●	●				
ACE-2 stimulation	Diabetes mellitus and chronic kidney disease +/- diabetes	Peptide	ACE-2 stimulation	●	●				
Factor XIIa	Coagulation and inflammation	Peptide	Factor XIIa specific (serine protease) inhibitor	●					
Macrophage driven inflammation	Inflammation incl Lupus and chronic granulomatous disease	RNA nanoparticle	Macrophage targeted mRNA	●					
CNS									
NuNerve	Amyotrophic lateral sclerosis and spinal cord injury	Biologic	EphA4 antagonist	●	●	●	●	●	
Infensa	Stroke neuroprotection and cardiac myoprotection	Peptide	Selective ASIC1a inhibitor	●	●	●	●		
* QEDDI Syk inhibitor	Neuroinflammation eg Parkinsons, Alzheimers and ALS/MND	Small molecule	First-in-class.	●	●	●	●		
C5a receptor antagonist	Neuroinflammation (and peripheral inflammation)	Peptide	C5a receptor antagonist, BBB penetrant, orally bioavailable	●	●	●			
Nav1.1	Dravet syndrome and other rare paediatric epilepsy	Peptide	Nav1.1 agonist	●	●				
Anti-Tau antibodies	Neurodegeneration	Antibody	Anti-Tau antibodies	●					
Infectious Diseases									
Molecular clamp sub-unit vaccine	COVID-19, universal flu, RSV, Ebola and other infectious agents	Vaccine	Hyper-stabilised viral pre-fusion protein vaccine platform	●	●	●	●	●	
Ebola antibody therapeutic	Post exposure prophylaxis for Ebola virus	Antibody	Glycoprotein-specific equine IgG	●	●	●	●		
Vancapticin	MDR Gram positive bacteria	Peptide	Membrane disruption	●	●	●			
Novel octapeptin and polymyxin analogues	MDR Gram negative bacteria	Peptide	Membrane disruption	●	●	●			
Novel chimeric flavivirus vaccine platform	Dengue, Zika, Yellow Fever, West Nile and other flaviviruses	Vaccine	Chimeric flavivirus antigen with insect-specific flavivirus	●	●				
Self-adjuvanting peptide vaccine platform	HPV, Group A Streptococcus and other infectious agents	Vaccine	Self-assembling adjuvant for peptide and protein-based vaccines	●	●				
Novel coronavirus vaccine platform	COVID-19, SARS, MERS and other coronaviruses	Vaccine	Coronavirus antigen and insect virus virions	●					

* The Queensland Emory Drug Discovery Initiative (QEDDI) is UniQuest's small molecule drug discovery and development group dedicated to translating academic biomedical research into new medicines. For more information, visit qeddi.com.au

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P - Already partnered A - Asset available for partnering

	Program Name	Indication/product	Modality	Mechanism of Action	Discovery	Pre-clinical	Clinical	Sales
					POC validated	Prototype	Lead product	Sales
REGEN MED	Regenerative Medicine, Cell and Gene Therapies							
	Kidney tissue from iPSCs	Kidney cells and organoids	Cell therapy	Stem cells	●	●		
	TheraPhil	Neutropenia	Cell therapy	Neutrophils	●	●		
	Primed endothelial progenitor cell based treatment	Hypoxic-ischemic encephalopathy (HIE) and vascular conditions	Cell therapy	Stem cells	●	●		
	Bioactive polymer scaffold for dental applications	Bone regeneration with dental focus	Material	Method of incorporating nano bioactives	●	●		
	HA-PPS MSC differentiation to cartilage	Knee meniscus and spinal disc repair	Hydrogel/scaffold	Differentiation factor	●			
	CAST gene editing platform	Next generation gene editing platform	Gene therapy	Gene editing	●			
	Scaffolds for periodontal ligament alignment	Tissue repair in periodontitis	Material	Guided ligament growth	●			
	AAV based gene therapy for Ataxia Telangiectasia	Ataxia Telangiectasia	Gene therapy	Novel MOA	●			
	ASIC1a knockout iPSC derived cardiomyocyte cell line	Improved myocyte engraftment (tolerance to acidosis & ischemia)	Cell therapy	Stem cells	●			
TOOLS	Research and Development Tools							
	Automated Topology Builder (ATB)	Software to improve molecular modeling and molecular dynamic calculations of small molecules			●	●	●	●
	Growth hormone assay	<i>In vitro</i> bioassay for growth hormone and analogues			●	●	●	
	Recombinant protein production booster	Expression platform to boost recombinant production of desired protein, peptide or small molecule without specialised culture conditions			●			
	Barcoding for single-cell sequencing	Knock-in genetic barcode technology for multiplex single-cell sequencing			●			
	Extracellular vesicle purification	Reagent for improved purification of extracellular vesicles from plasma			●			
MEDTECH & DIGITAL HEALTH	Biomedical Devices and Diagnostic Technologies							
	Impedimed	Lymphoedema bioimpedance			●	●	●	●
	ResApp Health	Mobile health for respiratory disease diagnosis			●	●	●	●
	Q-Sera	Universal blood collection pathology tubes that rapidly produce high quality serum			●	●	●	
	INOVIQ	Exosome-based ovarian cancer test			●	●		
	Methylscape pan cancer diagnostic	Rapid method for identifying and isolating cancer genomic and cell free DNA			●			
	Scanning ultrasound technology	Scanning ultrasound for treating Alzheimer's Disease			●	●		
	Diagnostic for treatment-resistant depression	Companion diagnostic for personalised screening and development of ketamine and related MOA drugs			●			
	Novel chimeric flavivirus virions for diagnostics	Dengue, Zika, Yellow Fever, West Nile and other flaviviruses			●			
	Novel chimeric virions for diagnostics	COVID-19, SARS, MERS and other coronaviruses			●			
	Vaccine and Drug Delivery Platforms							
	Vaxxas	Needle-free vaccine delivery using high-density micro-array patch (HD-MAP)			●	●	●	
	ProGel	Oral and gut stable encapsulation of API for release in small intestine			●	●		
	Sol-gel delivery for drugs to nasal membranes	Liquid formulation which gels upon contact with membranes to extend drug absorption			●	●		
	Silica nanoparticle delivery platform	Methods to prepare novel silica nanoparticle, load with specific actives and targeted delivery			●			
	Sol-gel delivery for drugs to non-nasal membranes	Liquid formulation which gels upon contact with membranes to extend drug absorption			●			
	Peptide oral bioavailability platform	Modification to peptide drugs to increase oral bioavailability			●			
	Nanocapsules	Encapsulated emulsion droplets for sustained or burst release and ability to coat microbes			●			
	Bi-specific PEG	Multi-specific targeting constructs for immunotherapy (cell engagers or antibody drug conjugates) and imaging (radio-labeled antibody)			●			
	Digital and Allied Health							
Comprehensive Health Assessment Program (CHAP)	Evidence-based program to improve the health of adults with intellectual disability			●	●	●	●	
BRAVE	An interactive, digital cognitive behaviour therapy (CBT) program, developed specifically for anxious children and teens (and their parents)			●	●	●	●	
Geriatric Anxiety Inventory (GAI)	Evidence-based tool for older people to measure anxiety and distinguish from dementia			●	●	●	●	
Coping with Multiple Sclerosis Scale (CMSS)	Validated measure of coping with multiple sclerosis-related problems to promote psychological wellbeing			●	●	●	●	
iAx	Assessment and personalised feedback software to assist health practitioners with the treatment of alcohol and cannabis addiction			●	●			