

## Pharma, MedTech and Digital Health Innovation Pipeline | June 2021

THERAPEUTIC PROGRAMS

Disease area/program name	Indication/product	Modality	Mechanism of Action	Discovery	Hit to lead	Lead Optimisation	Pre-clinical	Clinical	Sales
<b>Oncology</b>									
Gardasil®	Cervical cancer	Vaccine	HPV VLPs	●	●	●	●	●	●
Combination therapy for enhanced ADCC	Cancers treated with targeted antibody therapies	Small molecule	Endocytosis inhibition	●	●	●	●	●	
PEG cell engager	Head, neck and breast cancer	Antibody	Multi-epitope targeting bispecific antibody cell engagers	●	●	●	●		
Immuno-dermatology	Squamous cell carcinomas in organ transplant recipients (OTRs)	Small molecule	Skin-based immune cell rescue for OTRs on immune-suppression	●	●	●			
C5a Agonist	Cancers and Complement Immune System disorders	Peptide	C5a receptor agonist	●	●				
Targeted lipid nanoparticle immunotherapy	Targeted delivery of antigens and/or agonists to immune cells	Lipid nanoparticle	Dendritic cell targeted nanoparticle	●	●				
<b>Pain</b>									
ORL-1 modulator	Nociceptive	Peptide	ORL-1 agonist	●	●	●			
Alpha conotoxin	Neuropathic	Peptide	GABA B agonist	●	●				
Nav1.7	Acute and chronic	Peptide	Nav1.7 antagonist	●	●				
GlyR	Inflammation	Small molecule	α3 GlyR potentiator	●	●				
<b>Inflammation and Autoimmune</b>									
Inflammasome inhibitor	Inflammation	Small molecule	NLRP3 inhibitor	●	●	●	●	●	
PGD2	Asthma, atopic dermatitis and Duchenne muscular dystrophy	Small molecule	PGD2 synthase inhibitor	●	●	●			
PAR2 modulator	Inflammation (IBD, psoriasis)	Small molecule	PAR2 antagonist	●	●	●			
C3a modulator	Inflammation (arthritis, asthma and IBD)	Small molecule	C3a receptor antagonist	●	●	●			
Tolerising RA specific liposome immunotherapy	Rheumatoid arthritis	Lipid nanoparticle	Antigen specific immune tolerance induction	●	●	●			
Tolerising T1D specific liposome immunotherapy	Type 1 diabetes	Lipid nanoparticle	Antigen specific immune tolerance induction	●	●	●			
HDAC inhibitor	IBD and arthritis	Small molecule	Isoform selective HDAC inhibitor	●	●				
Factor XIIIa	Coagulation, inflammation	Peptide	Factor XIIIa inhibitor	●	●				
Tolerising disease specific immunotherapy	Autoimmune diseases	Lipid nanoparticle	Antigen specific immune tolerance induction	●					
<b>NASH, Diabetes and Obesity</b>									
Targeted IL-22	NASH and type 2 diabetes	Biologic	Inhibit oxidative and ER stress, hepatic inflammation and fat accumulation	●	●	●			
PAR2 modulator	Obesity and type 2 diabetes	Small molecule	PAR2 antagonist	●	●	●			
<b>CNS</b>									
NuNerve	Amyotrophic lateral sclerosis and spinal cord injury	Biologic	EphA4 antagonist	●	●	●	●	●	
Nav1.1	Epilepsy	Peptide	Nav1.1 agonist	●	●				
C5a	Neuroinflammation	Peptide	C5a receptor antagonist	●	●				
ASIC1a	Stroke neuroprotection and cardiac myoprotection	Peptide	Selective ASIC1a inhibitor	●	●				
Anti-Tau antibodies	Neurodegeneration	Antibody	Anti-Tau antibodies	●					
<b>Infectious Diseases</b>									
Molecular clamp sub-unit vaccine	COVID-19, universal flu, RSV, Ebola and others	Vaccine	Hyper-stabilised viral pre-fusion protein vaccine platform	●	●	●	●	●	
Ebola antibody therapeutic	Post exposure prophylaxis for Ebola virus	Antibody	Glycoprotein-specific equine IgG	●	●	●	●		
Vancaptin	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	●	●				
Novel coronavirus vaccine platform	COVID-19, SARS, MERS and other coronaviruses	Vaccine	Coronavirus antigen and insect virus virions	●					
Self-adjuvanting vaccine platform	HPV, Group A Streptococcus and other infectious agents	Vaccine	Self-assembling adjuvant for peptide and protein-based vaccines	●					

● Already partnered ● Asset available for partnering

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					POC Validated	Prototype	Lead product	Sales
CELL THERAPIES	<b>Cell and Gene Therapies</b>							
	TheraPhil	Neutropenia	Cell therapy	Neutrophils	●	●		
	Kidney tissue from iPSCs	Kidney tissue for therapeutic use in direct surgical applications	Cell therapy	Stem cells	●	●		
	Bioactive nano-polymer scaffold	Bone regeneration with dental focus	Material	Method of incorporating nano bioactives	●	●		
	Primed endothelial progenitor cell based treatment	Hypoxic-ischemic encephalopathy (HIE) and vascular conditions	Cell therapy	Stem cells	●	●		
	Red blood cell production	Red blood cells from haematopoietic stem cells	Cell therapy	Stem cells	●	●		
	HA-PPS MSC differentiation to cartilage	Knee meniscus and spinal disc repair	Hydrogel/scaffold	Differentiation factor	●			
	Porous tissue scaffold	Tissue scaffold	Material	Method to control porosity	●			
	Scaffold that mimics cell surface	Tissue scaffold and implant coating	Material	Controlled spacing of polymer surface features	●			
	CAST-CRISPR	Next generation gene editing platform	Gene therapy	Gene editing	●			
TOOLS	<b>Research and Development Tools</b>							
	Automated Topology Builder (ATB)	Software to improve molecular modeling and molecular dynamic calculations of small molecules			●	●	●	●
	Kidney organoids from iPSCs	Kidney tissue for drug discovery and toxicology screening			●	●	●	
	Growth hormone assay	<i>In vitro</i> bioassay for growth hormone and analogues			●	●	●	
	Release media	Enables culturing of difficult stem cells			●			
MEDTECH & DIGITAL HEALTH	<b>Biomedical Devices and Diagnostic Technologies</b>							
	ImpediMed	Lymphoedema bioimpedance			●	●	●	●
	ResApp Health	Mobile health for respiratory disease diagnosis			●	●	●	●
	Q-Sera	Universal blood collection pathology tubes that rapidly produce high quality serum			●	●	●	
	Methylscape pan cancer diagnostic	Rapid method for identifying and isolating cancer genomic and cell free DNA			●			
	Brain scanning ultrasound	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			●			
	<b>Vaccine and Drug Delivery Platforms</b>							
	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 membrane to extend drug absorption			●	●		
	Silica nanoparticle delivery platform	Methods to prepare novel silica nanoparticle, load with specific actives and targeted delivery			●	●		
	Bi-specific PEG	Multi-specific targeting constructs for immunotherapy (cell engagers or antibody drug conjugates) and imaging (radio-labeled antibody)			●	●		
	Sol-gel delivery for drugs to non-nasal membranes	Liquid formulation which gels upon contact with membrane to extend drug absorption			●			
	High loading polymer nanoparticles	Methods to prepare core shell drug polymer nanoparticles with drug loadings that can reach almost 60%			●			
	Nanocapsules	Encapsulated emulsion droplets for sustained or burst release and ability to coat microbes			●			
	Self-adjuvanting platform for peptide vaccines	Self-assembling adjuvant for peptide vaccines demonstrated with HPV and Group A Streptococcus			●			
	<b>Digital and Allied Health</b>							
Nursing assessment software	In-hospital patient assessment software for nurses			●	●	●	●	
Emergency Department Screener	Workflow software for emergency admissions			●	●	●	●	
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			●	●	●	●	

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