

CARB-X Complete Portfolio, as of 12/12/20

Since CARB-X was launched in July 2016

CARB-X GRADUATES - THERAPEUTICS

Product Developer & Graduation Date	Product	Bacteria	Novelty*			Hit-to-lead	Development Stage		
			New Abx Cls	New Abx Tgt	Non trad		Lead Optimization	Pre-Clinical	Phase 1
Iterum 03/19	Sulopenem	Gram-negative activity							
Spero 03/18	SPR741	Gram-negative activity			•				
Tetraphase 06/19	TP-6076	Acinetobacter & Enterobacteriaceae							
Opploitech 10/17	LPS	Gram-negative pathogens	•	•					

CARB-X GRADUATES - PREVENTATIVES

Product Developer & Graduation Date	Product	Bacteria	Novelty*			Hit-to-lead	Development Stage		
			Type	Lead Optimization	Pre-Clinical		Phase 1		
Vedanta 09/18	VE303	<i>C. difficile</i>	Microbiome						

CARB-X GRADUATES - DIAGNOSTICS

Product Developer & Graduation Date	Product	Bacteria	Type	Feasibility	Development Stage		
					Optimization	Development	Verification & Validation
T2 Biosystems 09/19	Expanded bacteria and resistance panels for T2Dx	Bloodstream infections	Hospital Dx				
Specific Diagnostics 03/20	SPECIFAST REVEAL™, Colorimetric Sensor Array to detect VOCs	Bloodstream infections	Hospital Dx				

Active Product Pipeline, as of 12/01/20

Products currently funded and supported by CARB-X

ACTIVE - THERAPEUTICS PROJECTS

Product Developer	Product	Bacteria	Novelty*			Hit-to-lead	Development Stage		
			New Abx Cls	New Abx Tgt	Non trad		Lead Optimization	Pre-Clinical	Phase I
Entasis Therapeutics	ETX0282CPDP. Oral combination	Gram-negative pathogens							
MicruRx	MRX-8. Soft drug polymyxin	Gram-negative pathogens							
GlaxoSmithKline	GSK0282CPDP FIMH antagonist UTI	<i>Escherichia coli</i>			•				
Amicrobe	Amicidin-β. Local antimicrobial	Broad spectrum			•				
Trellis Bioscience	TRL1068 Monoclonal antibody	Broad spectrum			•				
Polyphor	OMPTA POL7306	ESKAPE	•	•					
Microbion	Novel bismuthiol, Pravibismane suspension	<i>P. aeruginosa</i> , <i>S. aureus</i> , NTM	•	•					
Peptilogics	PLG0206 Direct-acting engineered peptides	Broad spectrum			•				
Bugworks Research	GYROX. Gyrase-topoisomerase inhibitor	Gram-negative pathogens	•						
Entasis Therapeutics	Non-beta-lactam PBPI	Gram-negative pathogens	•						
ContraFect	Gram-negative lysins	<i>P. aeruginosa</i>	•						
Antabio	PEI Pseudomonas elastase inhibitor	<i>P. aeruginosa</i>			•				
BioVersys	AVATAR-SA Anti-virulence agent	<i>S. aureus</i> , MRSA			•				
Cellics Therapeutics	Macrophage Nanosponge	Broad spectrum toxins & cytokines			•				
Centauri Therapeutics	ABX01 Dual acting large molecule	Gram-negative pathogens			•				
Clarametx Biosciences	CMTX-101 Monoclonal antibody	ESKAPE, MRSA			•				
Debiopharm	Debio1453. FabI inhibitor	<i>Neisseria gonorrhoeae</i>	•	•					
Debiopharm	Debio1454. FabI inhibitor	<i>Acinetobacter baumannii</i>	•	•					
Evotec SE	TriBE broad spectrum antibiotics	Gram-negative, Gram-positive	•						
Forge Therapeutics	FG-LpxC-LUNG. LpxC inhibitor	Gram-negative pathogens	•	•					
Idorsia	TopESKAPE. Topoisomerase inhibitor	Acinetobacter, <i>P. aeruginosa</i> , Enterobacteriaceae	•						
Polyphor	OMPTA Thanatin	Enterobacteriaceae CRE	•	•					
University of Queensland	OCTAPEPTIN Engineered peptides	Gram-negative pathogens	•						
Microbiotix	T3SS Inhibitor, virulence modifier	<i>Pseudomonas aeruginosa</i>			•				
ContraFect	Amurins. Phage-encoded lytic	Gram-negative pathogens	•						
GangaGen Biotech	Klebicins, Engineered proteins	<i>Klebsiella pneumoniae</i>			•				
Helmholtz Centre HZI	HZI-LDC <i>S. aureus</i> α-hemolysin Inhibitors	<i>Staphylococcus aureus</i>			•				
Helmholtz Institute HIPS	HZI-HIPS Elastase (LasB) Inhibitors	<i>Pseudomonas aeruginosa</i>			•				
Locus Biosciences	LBP-KP01 CRISPR-Cas3 Bacteriophage	Gram-negative pathogens			•				
Lytica Therapeutics	SIAMPS Large molecule direct-acting	Gram-negative pathogens	•						
Microbiotix	Trans-translation inhibitors, oral antibiotic	MDR <i>Neisseria gonorrhoeae</i>	•						
Oxford Drug Design	DaaRSi. Aminoacyl-tRNA Syn. Inhibitor	Gram-negative pathogens	•	•					
Taxis Pharmaceuticals	EPI-PA Efflux Pump Inhibitor	<i>P. aeruginosa</i>			•				
Techulon	PPNA-XPA	<i>P. aeruginosa</i> and <i>A. baumannii</i>			•				
VenatoRx	Oral cyclic-boronate PBP inhibitor	<i>Neisseria gonorrhoeae</i>	•						

ACTIVE - PREVENTATIVES PROJECTS

Product Developer	Product	Bacteria	Type	Hit-to-lead	Lead Optimization	Pre-Clinical	Phase I
Integrated Biotherapeutics	IBT-V02 Multi-valent vaccine	<i>S. aureus</i>	Vaccine				
Vedanta	VE707 Microbiome	CRE - ESBLs	Microbiome				
Facile Therapeutics	EBSELEN Prevention of <i>C. difficile</i> recurrence	<i>C. difficile</i>	Small molecule				
Seres	SER-155. Microbiome	Broad spectrum activity vs CRE/VRE	Microbiome				
Idorsia	VXN-319 vaccine	<i>K. pneumoniae</i>	Vaccine				
Vaxcyte (formerly SutroVax)	GAS Carbohydrate conjugate vaccine	<i>Streptococcus pyogenes</i>	Vaccine				
Vaxdyn	KAPAVAX Trivalent vaccine	Gram-negative pathogens	Vaccine				
Eligo Bioscience	EB004. CRISPR-based bacteriophage	Gram-negative pathogens	Bacteriophage				

ACTIVE - DIAGNOSTICS PROJECTS

Product Developer & Graduation Date	Product / Technology	Bacteria	Type	Feasibility	Optimization	Development	Verification & Validation
Proteus	Rapid POC Dx, Optical bacterial imaging	POC Diagnostic	Rapid Point of Care Dx				
Helixbind	Rapid/BSI, Automated culture-free	Bloodstream infections	Hospital Dx pathogen ID				
Pattern Bioscience	Digital culture single cell biometric analysis	RTIs, UTIs, BSIs	Hospital Dx				
Talis	POC Dx, Pathogen ID, Phenotypic AST	AST <i>Neisseria gonorrhoeae</i> ; ID NG and <i>Chlamydia trachomatis</i>	Rapid point of care Dx				
Day Zero Diagnostics	ID & AST Whole genome sequencing & machine learning	Drug-resistant pathogens	Hospital Dx				
Module Innovations	ID & AST ASTENSE UTIs	UTIs	Rapid point of care Dx				

Formerly funded projects

Projects listed in this section were formerly funded, and are no longer supported by CARB-X for a variety of reasons

CARB-X Final Investment Date	Therapeutics and Preventatives	Bacteria	Novelty*			Therapeutics and Vaccines Development Stage			
			New Abx Cls	New Abx Tgt	Non trad	Hit-to-Lead	Lead Optimization	Pre-Clinical	Phase I
Summit 09/20	SMT-571. Oral	<i>Neisseria gonorrhoeae</i>	•	•					
Zikani 08/20	Novel macrolide antibiotic	Gram-negative pathogens							
Forge Therapeutics 07/20	FG-LpxC-UTI. LpxC inhibitor	Gram-negative pathogens	•	•					
Bravos BB100 08/20	BB100 Monoclonal antibody	<i>Escherichia coli</i>			•				
Inhibrx 03/20	INBRX-111	<i>P. aeruginosa</i>			•				
Procarta 02/20	Pro-202 Oligonucleotidebased antibiotic	Gram-negative pathogens	•						
VenatoRx 12/19	VNRX-PBP. β-lact. resistant PBP inhibitor	Enterobacteriaceae	•						
SciBac 05/19	SCB-102	<i>C. difficile</i>			•				
Recida Tx 04/19	RC-01	Enterobacteriaceae, <i>P. aeruginosa</i>	•	•					
Curza 04/19	CZ-02	Broad spectrum	•						
Achaogen 03/19	Next-Generation AG	Gram-negative pathogens including <i>Pseudomonas</i>							
Melinta 02/19	Pyrrolocytosine	Broad spectrum	•						
Eligochem 12/18	Helical AMP	Gram-negative pathogens	•						
Shionogi 09/18	AGN-BL	Enterobacteriaceae							
Visterra 09/18	VIS705	<i>P. aeruginosa</i>			•				
Cidara Tx 04/18	CD201	<i>Acinetobacter, P. aeruginosa, Enterobacteriaceae</i>			•				
Achaogen 10/17	AKAO-LpxC	<i>P. aeruginosa</i>	•	•					
Redx Pharma 10/17	NBTI	<i>Acinetobacter, P. aeruginosa, Enterobacteriaceae</i>	•						

Diagnostics Development Stage						
CARB-X Final Investment Date	Diagnostics		Type	Feasibility	Optimization	Verification & Validation
MicrobeDx 08/18	Near care Dx	Urinary Tract Infections	Rapid Near to Care Dx			

The above projects are supported by CARB-X utilizing non-dilutive funding from BARDA, Wellcome Trust, Germany's Federal Ministry of Education and Research (BMBWF), with funding for specific projects from the UK Government's Global Antimicrobial Resistance Innovation Fund (GAMRIF) and the Bill & Melinda Gates Foundation. NIAID provides in-kind preclinical services to the funded projects. CARB-X funding for projects ends following First-in-Human for therapeutics and following Verification and Validation for diagnostics. Characterizations of new Abx Class and New Abx Target are by CARB-X, with external expert opinion sought as required. Abx = traditional direct-acting antibiotics. Non-traditional Product = not a traditional direct-acting antibiotic.

* New Antibiotic Class; New Molecular Target; Non-Traditional Product. Solid red arrows reflect completion of the stage, transparent coloring indicates current stage of development for active projects, and stage in which 'formerly funded' projects exited the portfolio. Arrow between stages indicate successful transition of the project through an Option stage gate.