

Program		Scope	Asset Description	Inventor(s)
Platform Assets				
BD-2410	T Cell Vaccine	Autoimmunity, Inflammation, Oncology, Infectious Disease	T cell vaccine technology that elicits very specific and robust T cell responses, with preliminary proof-of-concept data for cancer, autoimmune, and infectious disease indications.	Joseph Jardine & John Teijaro
BD-2512	Targeted Antigens for Enhanced Vaccine Immunity	Immunology, Vaccines	A novel approach to target any antigen to lymph nodes and promote antigen retention, with in vivo proof-of-concept data showing this augments multiple aspects of the immune response to immunization.	Darrell Irvine
BD-2315	CLEARing Protein Aggregates	Neuroscience, Multiple	Engineering compartments to detect and encapsulate toxic proteins and lead to their disposal through autophagy. The proof-of-concept program targets tau aggregates for the treatment of Alzheimer's Disease.	Keren Lasker
BD-2407	Anti-AGO	Neuroscience, Rare Disease	Haploinsufficient disease targeting modality that uses a modified Cas protein to block miRNA machinery and restore healthy gene expression levels.	Giordano Lippi
BD-2204	Glyco-ACC	Oncology	Glycan mediated antibody-cell conjugation platform that enhances solid-tumor killing compared to the constituent monotherapy.	Peng Wu
BD-2214	Exice	Oncology	Enzyme-extended immune cell engagers which confer approximately 10-fold better killing potential than standard bispecifics.	Peng Wu
BD-2509	DNA Damage Synthetic Lethality	Oncology	Cancer target discovery platform leveraging synthetic lethality in the DNA double-strand breaks (DSBs) pathway.	Xiaohua Wu
BD-2203	Fuco-ID	Oncology, Inflammation	T cell/TCR identification and validation platform that is time- and cost-effective.	Peng Wu
BD-2215	T CERAPIDE	Oncology, Inflammation	Small molecule platform that improves T cell survival and expansion by alleviating exhaustion and increasing memory- or progenitor-like properties.	Peng Wu
BD-2216	Targeted Discovery of Molecular Glues	Oncology, Multiple	A high throughput chemistry synthesis platform that converts targeted ligands into molecular glue degraders.	Michael Erb
BD-2247	Quadruplet Non-Canonical Amino Acids	Synthetic biology, Multiple	New strategy enabling the multiplexed incorporation of quadruplet non-canonical amino acids with improved efficacy.	Ahmed Badran
BD-2307	CATCH	Multiple	Unbiased target discovery platform that uses clearing assisted tissue click chemistry.	Li Ye
Single Assets				
BD-2423	Advanced Vancomycin	Anti-Infectives	Novel vancomycin analogs that overcome bacterial resistance with enhanced in vivo antimicrobial potency and long-term durability.	Dale Boger
BD-2514	TFA Therapeutic Applications	Cardiovascular	Trifluoroacetate (TFA) and structural analogs reduce plasma lipid levels and protect against atherosclerosis.	M. Reza Ghadiri
BD-2206	Nexinhibs	Inflammation, Autoimmunity	Potent neutrophil exocytosis inhibitors targeting RAB27A GTPase, thereby inhibiting uncontrolled neutrophil mediated secretion and inflammation without interfering with the neutrophil's protective role in the innate immune system.	Sergio Catz
BD-2511	Endos	Inflammation, Autoimmunity	Small molecules inhibitors of late endosomal fusion, maturation, and signaling by specifically inhibiting the interaction between MUNC13-4 and STX7.	Sergio Catz
BD-2503	SLC15A4 Inhibitors	Inflammation, Autoimmunity	Potential first-in-class functional inhibitors of SLC15A4 for the treatment of autoimmune and autoinflammatory diseases with demonstrated in vivo proof-of-concept data and comprehensive mechanistic characterization.	Christopher Parker & John Teijaro
BD-2508	TLR4 Inhibitors	Inflammation, Autoimmunity, Oncology, Cardiovascular, Infectious Disease	De novo peptides that inhibit TLR4 in the transmembrane region and impair its cross-membrane signaling.	Marco Mravic
BD-2404	Vaccine Against Xylazine Overdose	Immunology, Vaccines	A hapten conjugate vaccine that reverses the symptoms of a xylazine overdose, an illicit fentanyl-like drug increasingly found in opioids.	Kim Janda
BD-2515	Synthetic Fentanyl Vaccine	Immunology, Vaccines	A vaccine that protects against lethal fentanyl doses in murine models.	Kim Janda
BD-2516	Improved Heroin Vaccine	Immunology, Vaccines	An improved vaccine formulation that mitigates the lethal effects of heroin while allowing for long-term storage at room temperature.	Kim Janda
BD-2414	PIKfyve Modulators	Metabolism, Neurological, Rare Disease	PIKfyve modulators for the treatment of numerous lysosomal storage diseases and Parkinson's disease.	Jeffery Kelly
BD-2208	MEF2 Activators	Neuroscience	Activators of MEF2 to regenerate and repopulate damaged nerve cells in response to aging, injury, or disease identified through the Scripps/Calibr Ph1 Drug Repurposing ReFRAME library.	Stuart Lipton

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BD-2210	GABAAR Antagonists	Neuroscience, Pesticides, Anti-Parasitics	Novel allosteric GABAAR antagonists derived from <i>Picrotoxinin</i> with higher efficacy and selectivity between related ligand-gate ion channels for multiple applications including new neurological drugs, safer pesticides, and even anti-parasite treatments.	Ryan Shenvi
BD-2211	SalA Tx	Neuroscience	Stabilized salvinorin A analogs as novel KOR agonists with improved therapeutic properties, more amenable to diversification than the destabilized SalA available commercially.	Ryan Shenvi
BD-2212	Galbulimima Alkaloids	Neuroscience	Galbulimima alkaloid NCEs derived from traditional medicine with applications in mental health diseases, addiction, and chronic itch. Highly plastic pharmacology spanning antagonism, partial agonism and full agonism of KOR with G protein bias.	Ryan Shenvi
BD-2517	Cotylenin Glues	Neuroscience, Oncology	Glycosylated 14-3-3 molecular glues with efficacy in RAS-mutant cancers. Access to NCEs via novel glycosylation methods.	Ryan Shenvi
BD-2316	Siglec Degraders	Oncology	Novel and highly specific degraders of inhibitory Siglecs-7/9 that exhibit strong antitumor effects in vivo alone or in combination with checkpoint inhibitors.	Peng Wu
BD-2510	c-MYC Inhibitors	Oncology	Novel c-MYC inhibitors with demonstrated in vivo efficacy to kill MYC-driven tumors in rodent models.	Kim Janda
BD-2303	Universal Barstar CAR-T	Oncology	A "universal"/"switchable" CAR-T cell whose tumor targeting element has been replaced with a high affinity barstar-barnase complex that bridges the tumor to the effector via a low molecular weight DARPIn.	Alexey Stepanov
BD-2415	Switchable Covalent CAR-T	Oncology	A "universal"/"switchable" CAR-T cell whose tumor targeting element has been replaced with the 38C2 catalytic antibody, which bridges the tumor to the effector via a ligand for tumor cell receptor.	Alexey Stepanov
Software/Algorithm Assets				
BD-2506	Spatial Analysis for Genetic Disease Treatment	Genetic Diseases	Spatial analysis based foundational biological machine learning approach to analyze the relationship between a protein's shape and drug function. Proof-of-concept data in CF shows the ability to predict drugs that would improve upon the current standard of care.	William Balch
BD-2422	Genetic Risk Scoring	Genomics	Genomic and informatic technologies that enable quantification of risk and recommendation of individual interventions.	Ali Torkamani
BD-2507	Engineering Stable Transmembrane PPIs	Multiple	Computational platform for membrane-specific protein design. Applications include the development of novel biologics to target high-value transmembrane proteins (ex. GPCRs).	Marco Mravic
BD-2505	MovieNet	Multiple	An innovative AI-based technology that mimics brain function to recognize changing scenes or "movies" with broad applications from drug discovery and clinical monitoring to autonomous vehicles.	Hollis Cline
Non-Therapeutic Assets				
BD-2205	SuFEmers	Materials	A new application for novel organosulfur polymers previously identified in the Sharpless lab – as polysulfate-based capacitors whose structure and function are preserved even under thermal and electrical extremes ($\geq 150^\circ\text{C}$ and 750 MV/m).	K. Barry Sharpless
BD-2244	Electrochemistry	Materials	A novel electrochemical method for the sustainable synthesis of high-value monomers and specialty chemicals under alternating polarity conditions, improving the efficiency of large-scale production.	Phil Baran
BD-2420	Carbon Negative Biosynthetic Pathways	Materials, Synthetic Biology, Green Chemistry	Engineering an efficient RuBisCO enzyme that is selective towards CO ₂ over O ₂ as a first step towards carbon capture. In the long-run, the team will develop carbon-negative biosynthetic pathways that can be leveraged for food, fuel, and biomaterial synthesis.	Ahmed Badran
BD-2319	SuFEx Utility in Drug Development	Research Tools	Novel click chemistry utilizing sulfur fluoride to enable exchange reactions in biologically compatible conditions.	K. Barry Sharpless
BD-2408	Scalable Thiol Reactivity Profiling	Research Tools	A novel chemical tool to enable the rapid profiling of chemical matter for reactivity with cysteine.	Michael Bollong
BD-2513	Rodent Drinking Analysis Platform	Research Tools	Automated 2-bottle choice assay platform for continuous monitoring of rodent drinking microstructure.	Ardem Patapoutian
BD-2501	Molecular Editing of Multiple C-H Bonds	Research Tools	Chemical molecular editing strategy to directly modify bicyclic aza-arenes by enabling modular differentiation and functionalization of adjacent remote and spatially similar positions.	Jin-Quan Yu
BD-2502	sp ³ C-H Activation Chemistry	Research Tools, Manufacturing, Agriculture	Novel sp ³ C-H activation chemistry for the efficient diversification and production of high-value structures for drug discovery or manufacturing.	Jin-Quan Yu