

SANDERS
TRI-INSTITUTIONAL
THERAPEUTICS DISCOVERY INSTITUTE

10th Anniversary Edition

Sanders TDI | ANNUAL REPORT 2023

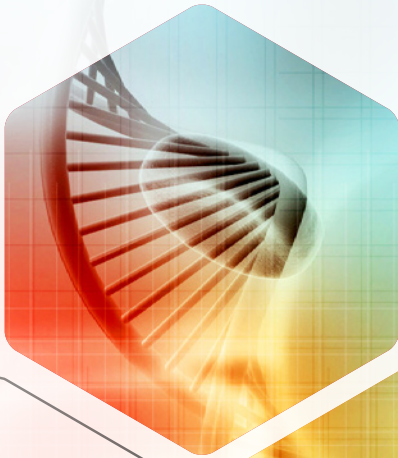
The mission of the Sanders Tri-Institutional Therapeutics Discovery Institute (Sanders TDI) is to **ENCOURAGE** our community to advance their groundbreaking biological discoveries to in vivo proof-of-concept studies. Sanders TDI provides industrial-scale technical support for academic projects, making it possible to rapidly assess the utility of specific therapeutic targets in disease-relevant contexts.

Sanders TDI **EMPOWERS** the translation of research discoveries from bench to bedside by offering a menu of services that is unprecedented in both scale and scope within an academic environment. This is accomplished through a series of highly favorable academic-industry partnerships established through Sanders TDI, as well as our Innovation & Education Initiative, which provides community-wide training and support in order to maximize the impact of these partnerships on academic drug discovery.

We achieve our mission by **LEVERAGING** the infrastructure, staff, and intellectual capital of our academic and industry partners, as well as the generous support of philanthropists.



Sanders TDI Encourage | Empower | Leverage

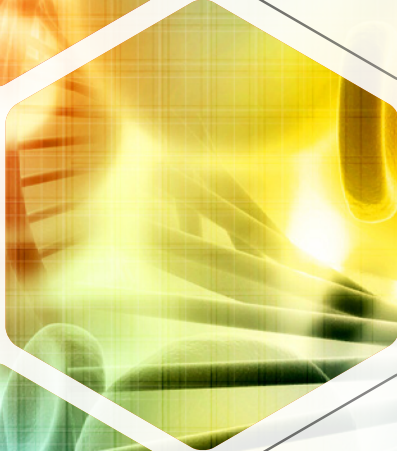


Basic Academic Research Discovery

Tri-I Investigator identifies a new protein target implicated in human disease.

Sanders TDI Early Project Initiative

Working in close association with the Investigator, Sanders TDI uses outside contractors and internal expertise to quickly assess viability of the protein as a new drug target.



Sanders TDI-Takeda Drug Discovery Initiative

Tri-I Investigator collaborates with Sanders TDI and Takeda to develop a lead small molecule or antibody for in vivo proof-of-concept studies.



Takeda Pharmaceuticals

Upon demonstration of in vivo efficacy, the project may be licensed to Takeda or another biopharma company.



New York Based NewCo

Alternatively, venture capital partners may fund a NYC-based company with appropriate resources to execute human proof-of-concept clinical trials.



SANDERS
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Sanders TDI: Measuring a Decade of Scientific Impact

It was a bold vision that created Sanders Tri-Institutional Therapeutics Discovery Institute (Sanders TDI) more than 10 years ago, but the need was greater than ever in the field of drug discovery. The hallowed halls of three of the country's finest research institutions – Weill Cornell Medicine, Memorial Sloan Kettering Cancer Center, and The Rockefeller University – had been filled with promising scientific breakthroughs. But still, as the years passed, far too many discoveries lay fallow.

Senior leaders in the Tri-I community saw an opportunity to tap into this potential. They envisioned a pharmaceutical research accelerator that was embedded within the infrastructures of these three institutions. The goal was lofty but transformative: to identify promising research and advance these discoveries into new therapeutics that were poised to enter the industry and become the next generation of patient therapies. In 2013, with the leadership and generosity of Mr. Lewis Sanders, the Tri-Institutional Therapeutics Discovery Institute was born – and a new landscape of possibilities awoke, allowing remarkable findings to be more quickly translated from the laboratory bench into the clinical setting. Today, the company proudly bears the name **Sanders** Tri-Institutional Therapeutics Discovery Institute (Sanders TDI), honoring the vision and leadership of this founding philanthropist.

Why Sanders TDI was created

The drug discovery landscape is an inefficient model at best. More than 90 percent of therapeutics that reach the clinic fail for reasons associated with either efficacy or safety, with failure rates far greater for earlier stage discoveries. To ensure a vibrant future, pharma and biotech rely heavily on licensing innovative discoveries that emerge from academic laboratories or new companies to create drugs. Unfortunately, however, most of academia lack the resources, time, and expertise to move a rudimentary idea, however promising, to a robustly validated target. It is also exceedingly difficult to conduct translational research efficiently or cost-effectively in this model.

Sanders TDI helps fill those gaps. The process is as follows: A researcher makes a promising discovery. Eureka! They have found something special but are unable to identify a suitable starting point or create assays to move the idea further along. By partnering these innovators with pharma-trained scientists, Sanders TDI can identify molecules that interact with this newly-discovered disease-relevant pathway. These molecules are eventually advanced to animal proof of concept studies.

With Sanders TDI's expertise, these discoveries are analyzed and de-risked with independent data so they can be licensed to pharma or used to create a new company.

How Sanders TDI has changed

When Sanders TDI started in 2013, it was a virtual group with only a handful of projects and people, with all of the onsite scientists provided from our founding industrial partner Takeda Pharmaceuticals. In 2015, the company expanded with the introduction of the Biologics Team. Shortly after, the Early Stage Pipeline was created to accelerate nascent discoveries into the Therapeutic Stage Pipelines. By Sanders TDI's fifth anniversary, the company had grown to more than a dozen employees and, while Sanders TDI still had a strong partnership with Takeda Pharmaceuticals, they no longer provided onsite scientific support. In 2018, I came on board as CEO, and three years later, Dr. Manuel Baca joined as Vice President of Biologics. Today, we have 34 employees – split about evenly across the organization.

For nearly 10 years, Sanders TDI's teams were dispersed across two separate buildings. But in July 2023 – again with the generosity of Mr. Lewis Sanders, along with Mr. Bill Ford and Mr. Russ Carson – Sanders TDI moved into state-of-the-art new space in the Bronk Laboratory on the Rockefeller University campus. This new home allows Sanders TDI scientists to be co-localized, fostering more organic interactions and seamless collaborations.

Sanders TDI has grown tremendously during its tenure, developing many new capabilities such as assay development, computational chemistry, single B-cell technology, and a proprietary phage library. These new capabilities are extensively exploited to enable and accelerate all Sanders TDI programs. Partnerships with technology companies like Schrödinger and Ablexis are also leveraged to provide industrial-level support to the scientists in the Tri-I academic community.

As part of the mission to advance translational research, Sanders TDI also has an education initiative to foster a more entrepreneurial and translational research culture. This includes the Sanders Tri-Institutional Chemical Biology Series,

scholarships to the Drew University ResMed course, and the Sanders TDI drug discovery course. In 2023, Sanders TDI gave 16 presentations on the drug discovery process to the Tri-I community to create a more translationally minded, entrepreneurial culture by sharing drug discovery knowledge and exposing the Tri-I scientific community to what is needed for promising assets to succeed in biotech and pharma.

What Sanders TDI has accomplished

As Sanders TDI celebrates this milestone anniversary, it is remarkable to reflect upon and measure the impact that 10 years of scientific research and innovation has created. Over the last 10 years, Sanders TDI supported 192 total programs. Nearly half of these projects

Sanders TDI is equally proud of our scientific contributions to address unmet medical needs. In addition to considering the economic value of an asset, it is also our goal to be good global citizens. Sanders TDI continues to work on projects related to malaria and tuberculosis. For instance, when the COVID-19 pandemic hit in 2020, Sanders TDI, along with its academic collaborators, pivoted to COVID research. The outcome was the validation of two novel anti-COVID drug targets, one addressed by a biologic agent and the other small molecule.

Where Sanders TDI is going

For 10 years, Sanders TDI has been building a bridge between academia and industry. We are incredibly thankful

We are incredibly thankful for Mr. Lewis Sanders, our Board of Directors, and our parent institutions whose vision and generosity have made this company possible.



entered Sanders TDI in the Early Stage Pipeline with only a scientific insight or an idea for what might be a compelling new target. Sanders TDI's Small Molecule and Biologics teams worked closely with many professors, postdocs, and graduate students to bring these ideas to life and generate molecules to validate them.

Of these 192 programs, 19 were partnered – 14 to biotech/pharma. Also, five new companies were created including: Quentis Therapeutics, Inc., Sparian Biosciences, Inc., IpiNovyx Bio, Inc., Xenimmune Therapeutics, Inc., and Sacyl Pharmaceuticals, Inc.. The new biotech companies used TDI data packages to help secure over \$85 million in funding to advance their missions. Another 11 assets are still available for licensing and show great promise. Three Sanders TDI molecules have reached clinical stages, including a new non-addictive pain medication and two therapies for the treatment of acute myeloid leukemia. A fourth will enter the clinic next year, and several others are on the cusp of this seminal achievement.

Sanders TDI also built an effective process for helping our academic partners secure funding by strengthening their grants. Since 2014, Sanders TDI has helped secure 53 grants totaling \$109 million in funding and Sanders TDI scientists were co-authors on 55 papers and co-inventors on 47 patents.

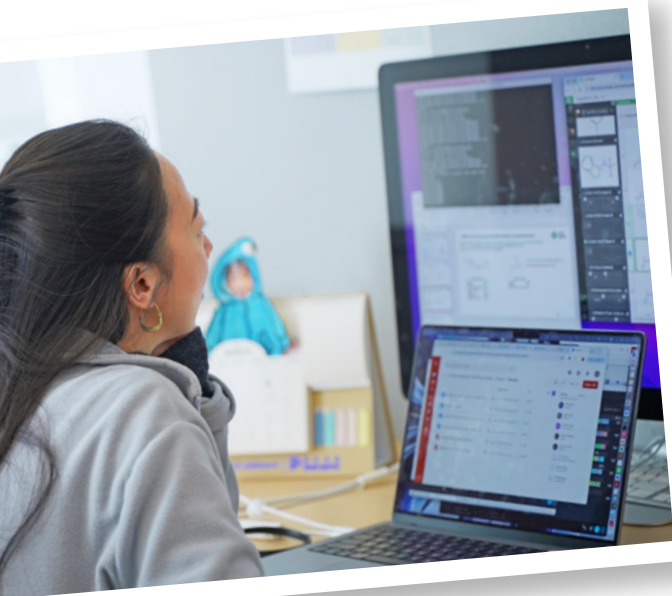
for Mr. Lewis Sanders, our Board of Directors, and our parent institutions whose vision and generosity have made this company possible. In a climate where most biotechs fail, the Sanders TDI model moved from an unknown and untested entity to a company with a clear track record of success.

Looking into the next 10 years and beyond, there are many possibilities to explore. Historically, Sanders TDI's efforts on a project have stopped at the animal proof of concept stage, but we hope to eventually advance programs into the clinic ourselves – leveraging the power of the three hospitals associated with our parent institutions.

It is our hope that the Tri-I community becomes a model for other biotech institutions to advance scientific research in other areas of the country. Our eyes are all fixed on the same goal: developing new therapeutics that can make a difference for people living with disease. The future is bright and filled with possibility. And I, for one, cannot wait to bear witness to the next decade of innovation.

Peter T. Meinke, PhD
Sanders Director

Sanders TDI Settles into its New Home and Fosters Active Collaborations



How do you move two scientific laboratories with delicate high-tech equipment and fragile specimens in incubators and super-cooled freezers to a new home? The answer is precise internal planning, an exceptional facilities team, and a specialized moving company.

On July 10th, Sanders TDI packed up and moved to a newly created space on The Rockefeller University's campus, in the Ford Translational Research Center located within the Bronk Laboratory building. Sanders TDI was previously spread across two locations, with the Small Molecule Discovery Team located in Weill Cornell's Belfer Research Building and the Biologics Discovery Team in Memorial Sloan Kettering's Zuckerman Research Center. The newly remodeled space within the Bronk Laboratory building was made possible with the generous support of Mr. Lewis Sanders, Mr. Bill Ford, and Mr. Russ Carson.

Sanders TDI scientists were fully operational and back at the bench in only three weeks after the move. This seamless transition to the new space would

not have been possible without the support of Richard L. Hoffman & Associates (the move coordination company), the Planning and Construction team at The Rockefeller University, which included George Candler and Daria Moore, and Sanders TDI's Lab Operations Supervisor Shannel Brown.

"Everyone worked together to make this move possible. The fact that we were back to conducting science only three weeks after our move date was a remarkable achievement," says Patti Aha, PMP, Vice President of Operations and Portfolio Management at Sanders TDI. "There was excellent organization and communication between the lab team, the operations staff, and Christina Cappetti and Mike Neville from Richard L. Hoffman, and because of that the transition went very smoothly."





The new space is designed to fully support active collaborations, with a wide variety of meeting spaces intended to provide venues for both in-person and virtual gatherings. There are also dedicated labs for chemistry, biologics, small molecule biology discovery tissue culture, and analytics.

"We can already see how the new space will revolutionize scientific discovery at Sanders TDI," adds Aha. "Scientists on different teams are sharing offices, having lunch together, and communicating organically across various projects. It's a very different feeling walking down the hall to troubleshoot a problem with a team member when it arises than needing to find someone across the street in a different building. That collaborative spirit will only continue to grow and improve over the next year, and we are excited to see the innovation that comes out of these interactions."



Sanders TDI's 10th Anniversary Symposium: Celebrating the Scientific Impact of the Past Decade



Encourage. Empower. Leverage. These founding principles inspired the creation of the Sanders Tri-Institutional Therapeutics Discovery Institute (Sanders TDI) more than a decade ago. Throughout the years, these words have guided the way as Sanders TDI teams work with researchers across the Tri-Institutional community at Memorial Sloan Kettering Cancer Center, The Rockefeller University, and Weill Cornell Medicine to discover new treatments for patients living with disease.

On November 7, 2023, more than 100 of those researchers and collaborators gathered to commemorate Sanders TDI's 10th anniversary with a celebratory symposium, poster session, and hors d'oeuvres party. During the festivities, principal investigators from four promising projects explained how Sanders TDI helped accelerate their research and develop drugs from their novel therapeutic targets.

"Reaching the 10-year mark is a major milestone for a young company like Sanders TDI, as many biotech companies fail long before then," said Peter T. Meinke, PhD, CEO, and Sanders Director at Sanders TDI. "We wanted to celebrate this historic occasion by highlighting the many ways we have made an impact on the scientific community and shaped the drug discovery landscape in important areas of medicine like cancer, pain control, and auto-inflammatory conditions."



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Peter T. Meinke, PhD
Sanders Director

Meinke thanked the Sanders TDI Directors for their continued friendship and shared that he was delighted to celebrate alongside Dr. Carl Nathan and Dr. Derek Tan, who were able to attend the event. He also expressed his gratitude to Mr. Lewis Sanders for driving the creation of Sanders TDI in 2013 and envisioning a place that could help bridge the gap from bench to bedside for the great minds of the Tri-I scientific community.

NEWS & ACCOMPLISHMENTS

Symposium presentations: shining a spotlight on promising Sanders TDI programs

Since Sanders TDI was founded in 2013, the company has supported 192 total programs throughout the Tri-I community. Nineteen of these programs have been partnered – 14 were licensed to biotech/pharma, two reached clinical stages, and five spun off into new companies including: Quentis Therapeutics, Inc., Sparian Biosciences, Inc., IpiNovyx Bio, Inc., Xenimmune Therapeutics, Inc., and Sacyl Pharmaceuticals, Inc.

Presentations on four key programs were spotlighted during the 10th anniversary celebration:

Finding new ways to treat pain

To combat the opioid crisis in the U.S., researchers have been searching for alternative pain medications with less addictive properties. In 2011, researchers in the Pasternak Lab at Memorial Sloan Kettering Cancer Center made a significant leap forward by identifying a novel class of drugs that targeted a newly discovered receptor in the pain pathway. Scientists at Sanders TDI optimized the molecule and independently confirmed that the compound, SBS-1000, achieved potent pain relief in animal models without the adverse side effects of opioid drugs.

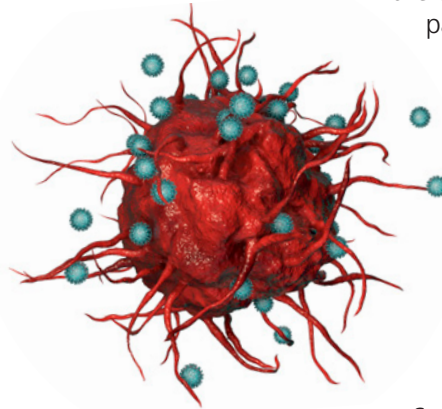
Showing great promise, SBS-1000 was licensed to Sparian Biosciences Inc., which is based out of BioLabs at NYU Langone. Thanks to Sanders TDI's foundational work and continued partnership, in 2019, Sparian received a \$20 million grant from the National Institute on Drug Abuse (NIDA) to complete manufacturing, preclinical development, and a Phase 1 clinical trial in 2022 for SBS-1000.

"Sanders TDI has been a valued collaborator," said **Jeff Reich, MD**, co-founder of Sparian. "Their work enabled us to highlight the properties of the drug and confirm its safety and efficacy. Without the initial data generated by Sanders TDI, we would probably never have received this grant and moved this novel drug into human clinical trials."

Activating the immune system to fight cancer

Immune checkpoint inhibitors have made a significant impact on cancer treatment, but many patients still do not benefit from them. To solve this problem, researchers in the laboratory of Jedd Wolchok, MD, PhD, and Taha Merghoub, PhD at Weill Cornell Medicine, looked for a new way to properly activate the immune system in cancer patients. They collaborated with the Biologics Team at Sanders TDI to develop a new antibody-based therapy that would be effective in more patients with different types of cancer.

By combining the Wolchok/Merghoub Lab's abundant knowledge in cancer immunotherapy with Sanders TDI's expertise in antibody discovery, researchers developed a new biologic that potently activates the immune system of cancer patients. "Working with Sanders TDI has been a highly productive and constructive part of our research program," said **Dr. Wolchok**. The Sanders TDI team has truly catalyzed the development, and now selection, of late-stage components for a complex multi-part therapeutic strategy that we believe will add measurably to the impact of immunotherapy."



Several years ago, we identified a novel "oncogene-like" molecule with an E3 ubiquitin ligase activity, which is amplified in many major malignancies such as breast, ovarian, and colorectal cancers and which drives highly aggressive and drug-resistant cancer behaviors with relapses and poor prognosis. This is an excellent therapeutic target but it is localized in the nucleus. This dilemma called for innovative strategies of drug targeting. Sanders TDI took on this project and has been working closely with us. They are team of highly dedicated, enthusiastic, knowledgeable, competent and collegial experts with tremendous resourcefulness and resilience. Although still early in the drug development, our experience with the Sanders TDI team has been one filled with drive, joy, and realistic promise. This special group of scientists and medicinal chemists gives us the high hope that our "dream drug" may one day become a reality.



Xiaojing Ma, PhD,
Professor, Department of Microbiology and Immunology,
Weill Cornell Medicine

NEWS & ACCOMPLISHMENTS

Exploring new treatments for lung cancer

Many lung cancer patients who receive immune modulatory drugs do not have durable responses. Brendon Stiles, MD, and Timothy McGraw, PhD, from Weill Cornell Medicine discovered that ART1 had the potential to be a druggable target for the treatment of cancer.

To further their promising findings, in 2016, researchers initiated an exploratory project with the Biologics Team at Sanders TDI. The goal of the project was to discover antibodies that could inhibit the enzymatic activity of ART1. After selecting a candidate antibody, the research team achieved *in vivo* proof of concept in mouse models, and then humanized and sequence-optimized the antibody to improve its drug-like properties. In the summer of 2022, the project successfully graduated from Sanders TDI.

“Combination therapy, which synergizes anti-ART1 therapeutics with current treatment paradigms in lung cancer, provides a promising pathway to early clinical trials that may someday provide a greatly needed new medicine for treating lung cancer,” said **Dr. McGraw**. “We are grateful to Sanders TDI for helping us advance this innovative research.”

Targeting enzymes to treat inflammatory disease

Thomas Tuschl, PhD, and his research group at The Rockefeller University have been studying the enzyme and innate immune sensor cGAS that, when aberrantly activated, leads to auto-inflammation and tissue damage. In 2016, they began working with the Small Molecule Therapeutic team at Sanders TDI to identify molecules with substantially enhanced activity and improved drug-like properties. The medicinal chemists developed several advanced compounds with activity, stability, and safety

profiles that were suitable for evaluation in animal proof of concept studies. One of these advanced compounds has shown success in a viral infection model study.

“Sanders TDI helped provide the basis for the Tuschl Group to move forward with licensing to a partner organization for advanced preclinical development,” said **Dr. Tuschl**. “A small molecule that could inhibit the target protein may potentially be used to treat several diseases, including auto-inflammatory conditions, neurodegenerative disorders, and metastatic cancer.”

Poster session: exploring the Small Molecule and Biologics teams

The 10th anniversary celebration also included a poster session featuring nearly a dozen scientific highlights from the Small Molecule and Biologics teams. Both teams showcased several cutting-edge technologies that Sanders TDI can deploy for the benefit of its collaborators, such as a shape-based virtual screening, alpha-fold for small molecule computational analysis, PROTAC (degrader) drug discovery, and single B-cell sorting for novel antibody discovery. Both teams also presented posters on specific collaborations where Sanders TDI scientists helped to discover and advance molecules that modulate novel disease targets.

A bright future at Sanders TDI

After more than a decade of scientific innovation, Sanders TDI enters the next chapter of its growth and discovery. Promising new projects fill the pipelines and exceptional researchers with differing scientific expertise are ready to work together in a newly remodeled and shared home to continue the acceleration of drug discovery in the decade to come.

Our collaboration with Sanders TDI on small molecule inhibitors of a mycobacterial enzyme was truly an exceptional and a highly rewarding experience. Sanders TDI took our small molecule with no antibacterial activity due to limited intracellular accumulation and developed analogs that were permeable through the waxy mycobacterial cell wall and able to accumulate inside mycobacteria to engage our target. Further optimization led to analogs with the extended residence time on the bacterial but not human enzyme to build up in vivo selectivity. Improvements in metabolic stability afforded superior bioavailability for the efficacy proof-of-concept testing in a mouse model of tuberculosis. We owe this remarkable progress to the talented team of experts assembled by Sanders TDI.

Ruslana Bryk , PhD

Associate Professor of Research in Microbiology and Immunology
Weill Cornell Medicine

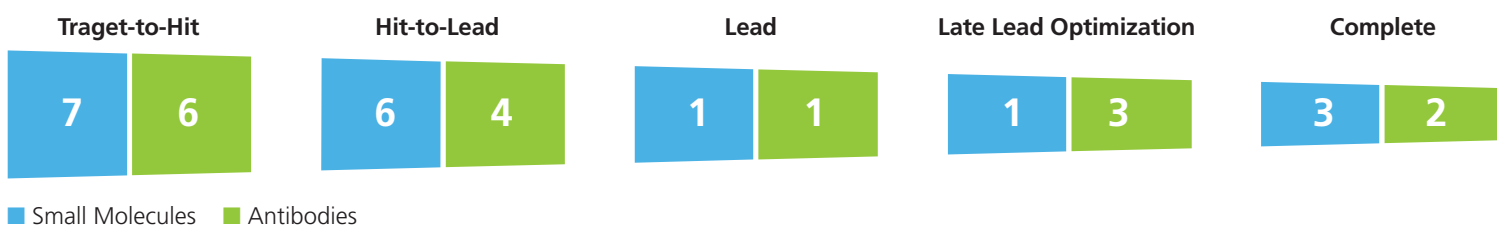


2023 Highlights: Sanders TDI Outputs

The promise of Sanders TDI is being realized. As the table below illustrates, Sanders TDI has licensed many innovative technologies to industry and helped to launch five new companies. It is truly extraordinary for such a young and dynamic organization to have successfully completed and licensed thirteen programs in such a compressed timeframe. Sanders TDI is fortunate to have access to rich and diverse foundational science and the opportunity to collaborate with leading experts in the Tri-Institutional community.

Year	Institute	Therapeutic Area	Modality	Outcome
2016	WCM	Oncology	Small molecule	NewCo: Quentis Therapeutics
	MSK	Pain	Small molecule	NewCo: Sparian Bioscience
2017	MSK	Oncology	Small molecule	Available for licensing
	RU	Oncology	Small molecule	Licensed to Bridge Medicines
2018	MSK	Oncology	Biologics	Licensed to pharma
	RU	Infectious Disease	Biologics	Available for licensing
	WCM	Inflammation / MS	Small molecule	Licensed to Bridge Medicines
	WCM	Stroke / Sepsis	Small molecule	Available for licensing
	WCM	Oncology	Small molecule	Licensed to pharma
2019	RU	Hearing Regeneration	Small molecule	Licensed to pharma
	RU	Inflammation	Small molecule	Licensed to pharma
2020	MSK	Oncology	Biologics	Licensed to pharma
	MSK	Oncology	Biologics	Licensed to pharma
	MSK	Oncology	Biologics	Licensed to pharma
	RU	Oncology	Small molecule	Licensed to Bridge Medicines
2021	MSK	Oncology	Biologics	Licensed to pharma.
	MSK	Oncology	Biologics	Available for licensing
	WCM	Contraception	Small molecule	NewCo: Sacyl Pharma
	WCM	Oncology	Small molecule	License to Bridge Medicines
	WCM	Oncology	Biologics	NewCo: Xenimmune
	WCM	Infectious Disease	Small molecule	Available for licensing
	WCM	Psoriasis	Small molecule	Available for licensing
2022	MSK	Other	Biologics	License to pharma in negotiation
	MSK	Oncology	Biologics	Available for licensing
	RU	Oncology	Biologics	Available for licensing
	WCM	Oncology	Biologics	Available for licensing
2023	MSK	Oncology	Biologics	Available for licensing
	RU	Infectious Disease	Small molecule	Available for licensing

2023 Sanders TDI Pipeline: Early and Late Stage Projects



Oncology

Acute Myeloid Leukemia
 Bladder Cancer
 Breast Cancer
 Colorectal cancer
 Gastric Cancer
 Lymphoma
 Melanoma
 Metastatic Cancer
 Myeloproliferative Neoplasm
 Ovarian Cancer
 Pancreatic Cancer
 Prostate Cancer

Infectious Disease

Kaposi's sarcoma herpesvirus
 COVID-19
 Tuberculosis
 Inflammatory Vascular Diseases
 Neurodegeneration
 Non-alcoholic Fatty Liver Disease
 Parkinson's Disease

... and more

Anxiety & Depression
 Autoimmune Disorders
 Gene editing

Although chimeric antigen receptor (CAR) T-cells have revolutionized the treatment of hematologic cancers, this benefit has not extended to the treatment of acute myeloid leukemia, the most prevalent and lethal acute leukemia. We approached Sanders TDI with two ideas to address this critical therapeutic gap and emerged with therapeutically viable CAR T cells with extremely robust activity in aggressive human AML xenograft models. We have since gone on to license the fruits of these endeavors and one of them is in the clinic for the treatment of relapsed/refractory AML. The experience of collaborating with the Sanders TDI on both projects was simply amazing. The level of expertise, depth of knowledge, and technical skill demonstrated by the Sanders TDI is unmatched, and it has led us to return to them on several more occasions seeking additional collaborations. Sanders TDI is an invaluable asset, and I am looking forward to continuing working with them to make cures possible for the treatment of cancers.

Anthony Daniyan, MD

Assistant Attending
 Leukemia Service and Cellular Therapeutics Center
 Division of Hematologic Malignancies
 Memorial Sloan Kettering Cancer Center



Sanders TDI's Project Pipeline: A Model for the Future of Drug Discovery

Sanders TDI was established to address three pressing problems in the drug discovery pipeline: the high cost of novel drug discovery, the “valley of death” that exists between academic discovery and industrial drug development, and the falling productivity of the industrial drug pipeline.

The founding principles at Sanders TDI were lofty and transformative. First, to partner pharmaceutical scientists with academic innovators on projects vetted by scientific advisory boards comprised of professional drug development scientists. Then, to leverage the existing infrastructure and resources of the parent institutions. Next, to ensure that ownership of any newly developed intellectual property passed back to the originating institution. Finally, to de-risk and validate lead molecules, both large and small, before *in vivo* proof of concept studies. With these guiding pillars, Sanders TDI's goal was to increase the speed and efficiency of academic drug discovery as well as the probability of licensing developed assets from the originating intuition to biopharma or to a newly spun-out biotech.

In a 2010 issue of *Nature Review*, Stephen Paul et. al. wrote, “Simply stated, without a dramatic increase in R&D productivity, today's pharmaceutical industry cannot sustain sufficient innovation to replace the loss of revenues due to patent expirations for successful products.” One answer to this conundrum is creating institutions such as Sanders TDI – that employ seasoned drug hunters with deep industrial knowledge of the rigor required for new drug discovery – and developing a space where they can collaborate closely with real scientific innovators, the academic scientists. This marriage of academic scientific creativity with profound drug development knowledge produces what the world desperately needs: an organization willing to work on high-risk, cutting-edge programs in search of truly novel therapeutics for patients with the largest unmet medical needs.

The high-risk and inspired nature of the projects in the Sanders TDI pipeline yield an equally high rate of project attrition. While early project closure is disappointing, Sanders TDI projects that conclude without *in vivo* proof of the therapeutic concept often still benefit the principal investigators by providing tool molecules and optimized assays for continued scientific discovery in their own labs. This attrition rate is also the reason why Sanders TDI typically manages a robust portfolio of well over 25 projects per year in diverse therapeutic areas. This rate of scientific discovery, managed by a staff of only 35, has produced 19 licensing events and five biotech spinouts over the last 10 years. “This scoresheet is a truly remarkable achievement for an organization of this size and age, and showcases that the Sanders TDI model works,” says Peter T. Meinke, PhD, Sanders Director.

As of this publication, the following assets developed by Sanders TDI, in collaboration with institutional investigators, are either in or approaching clinical trials:

Asset	Modality	Current Holder	Indication	Status
SBS-1000	Small Molecule	Sparian Biosciences	Non-addictive pain treatment	In Phase 1 clinical trials
CB-012	Biologic	Caribou Biosciences	Relapsed or refractory AML	In Phase 1 clinical trials
CD371	Biologic	Memorial Sloan Kettering / Tigen	Relapsed or refractory AML	In Phase 1 clinical trials
ENL YEATS	Small Molecule	Bridge Medicines	AML	Preparing for IND
Not disclosed	Small Molecule	Weill Cornell Medicine	Contraception	Preparing for IND

By running these large and therapeutically agnostic project pipelines, Sanders TDI has also brought economic benefits to the Tri-Institutional community. Over its 10-year history, Sanders TDI partnered programs raised \$26 million in funding from asset licensing events, with some of this financial return used to offset the costs to its parent institutions. In addition, Sanders TDI developed molecules, which formed the basis for five new company spinouts from the institutions, thus enhancing the biotechnology footprint of New York City. Because of the quality of the assets developed at Sanders TDI, these new companies successfully raised over \$84 million in funding to launch their businesses.

Sanders TDI's successes in producing licensable assets undoubtedly establishes the transformative power of this model. Harnessing academic innovation through collaborations with seasoned industry scientists clearly has the potential to accelerate transformational new drug discovery and bring vibrancy to the biotechnology business sector.

“As Sanders TDI embarks on its second decade, we reflect with gratitude on the brilliant and creative investigators that have contributed to our success and looks forward to continuing to advance our mission of accelerating new therapies to those most in need,” says Meinke.

Sanders TDI Delivers more than Molecules

The collaborations that Sanders TDI engages in across the Tri-I Community are highly varied in scientific focus and scope. Sanders TDI supports projects across a broad range of therapeutic areas and assists with everything from very early-stage projects, where the therapeutic target may be unknown, through to late-stage programs where the molecule of interest may simply need additional optimization to be ready for licensing or being used as the starting point for a new company.

The result is that the work Sanders TDI does supports not only the generation of molecules, but also publications, patents, and grants.

Over the last 10 years, Sanders TDI members have been co-authors on approximately **60 peer-reviewed journal articles** and listed as co-inventors on **50 patents**.

Also, by working closely with investigators across the institutions, Sanders TDI has helped to raise more than **\$100M in grant support** for labs within the Tri-I Community.

Sanders TDI's Strategic Partners

Preclinical Drug Discovery and Development Services

Frontage Labs, Inc.
HitGen, Inc.
Pharmaron, Inc.
WuXi AppTec, Ltd.

Biochemical and Cell-based assays

BPS Bioscience, Inc.
Eurofins, Ltd.
HD Bioscience, Inc.
Reaction Biology Corp.
Xenobiotic Laboratories, Inc.

Structural Biology, Protein Expression and Purification

Cepter Biopartners, LLC.
Hauptman-Woodward Research Institute
GenScript, Inc.
NY Structural Biology Center, Inc.
Viva Biotech, Ltd.

Antibody Discovery and Development

Abterra Biosciences, Inc.
Ablexis, LLC.
AlivaMab Biologics, LLC.
Abzena, LLC.
Antibody Design Labs, LLC.
Antibody Solutions, Inc.
Biosensor Tools, LLC.
CovalX Instruments, Inc.
Curia Bio., Inc.
Novatia, LLC.
Single Cell Technology, Inc.
Taconic Biosciences, Inc.
Taizhou Biointron Biological, Inc.
WuXi Biologics, Ltd.

Computational Chemistry, Biology & Virtual Screening

Cyclica, Inc.
In Silico Medicine, Ltd.
Schrödinger, LLC.

Sanders TDI Leadership 2023

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Chair of Microbiology and Immunology
R.A. Rees Pritchett Professor of Microbiology
Weill Cornell Medicine

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Deputy Director, Therapeutic Discovery, Sloan Kettering Institute
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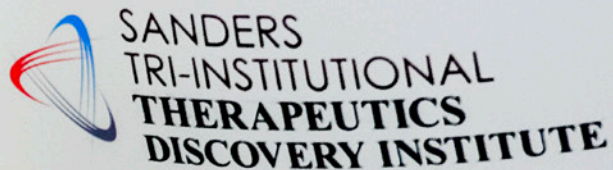
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Over the last 10 years Sanders TDI has worked on over 190 projects across the Tri-I Community. We have contributed to over 60 publications and over 50 patents. Of the 26 molecules that we developed for licensing, 5 were the basis of new biotechnology companies and 14 were licensed to pharma/ biotech.

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