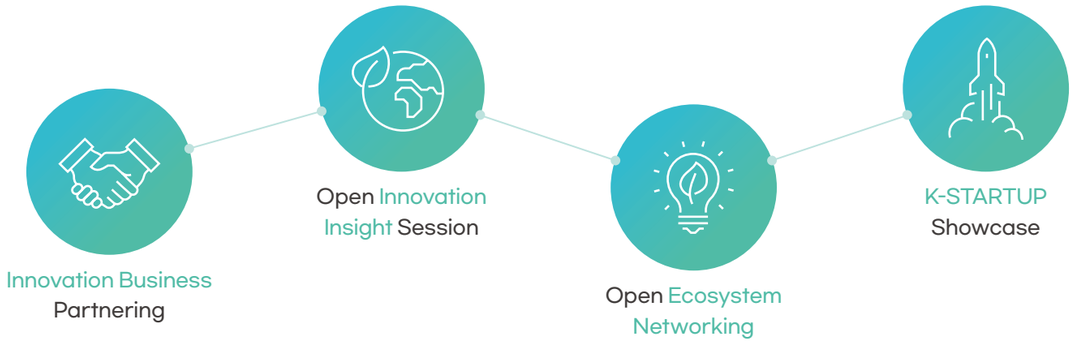
MUST. CONNECT
MORE UNICORN STARTUPS IN TECH



MUST. CONNECT

MORE UNICORN STARTUPS IN TECH

GLOBAL INNOVATION ROADSHOW
SINGAPORE 11 - 12 OCT, 2023

MUST. CONNECT is a Global Innovation Roadshow that connects all networks for startups to scale their way up abroad and become global unicorns.

LOCATION
Bridge+ Ascent,
1F ARENA & METRO, 2 Science Park Dr,
Singapore Science Park 1, Ascent, #01-08

Present by Must Accelerator

Sponsored by Ministry of Trade, Industry and Energy · ifez Incheon Free Economic Zone · beyond leading technology KIAT Korea Institute for Advancement of Technology · ITP Incheon Technopark · Shinhan Financial Group

WELCOME TO
MUST. CONNECT

Commencing a new endeavor can be a scary, often requiring the courage to take a solid step into the unknown. That's why we admire those who take that brave first step. However, continuing what's already started can be just as tough, demanding lots of persistence and hard work. We've learned that growth happens gradually, like how a seed sprouts and turns into a full-grown plant.

Last year, we undertook a bold and pioneering initiative. MUST embraced the mission of facilitating the global expansion of promising Korean startups in the bio-healthcare industry. In these fields, forging strategic partnerships for collaborative R&D and the exploration of shared business prospects is of paramount significance, as is the critical task of securing visionary investors.

MUST.CONNECT had its first event in Singapore in 2022 to create a 'connecting place' where startups, investors, and industry experts could come together to share information and create synergies. Seven innovative startups from Korea joined us, focusing on biotech and digital healthcare. Through the event, companies met startups, enterprises, and VCs in Singapore and learned that connecting with global ecosystems helped these startups grow.

This year, we have twelve startups with us and want to build strong partnerships that will last. I'm so thrilled that MUST.CONNECT is continuing the challenges. As we explore new territory, I'm looking forward to seeing the great results our hard work will bring in the future.

Jisun (Julia) Lee
CEO, MUST Accelerator

Lee S.S

MUST. CONNECT
MORE UNICORN STARTUPS IN TECH

GLOBAL INNOVATION ROADSHOW
SINGAPORE 11 - 12 OCT, 2023

About **MUST. CONNECT**

MUST. CONNECT is a global innovation roadshow that connects all networks for startups to scale their way up abroad become global unicorns.

With the vision of fostering More Unicorn Startup in Tech, MUST.CONNECT maximizes startups' opportunities to discover potential partners who align with their technology and stage of development.

Serving as prominent global acceleration platform, MUST.CONNECT connects startups to the global stage, offering private business partnering sessions tailored to specific objectives such as technology R&D, business development, investment, and networking.

MUST.CONNECT acts as a catalyst for promoting exchanges and collaboration between Korean startups and major players in global ecosystem.

Program Highlight

Exploring business cooperation & investment opportunities through partnering

01

Innovation Business Partnering

Exploring business opportunities through private business partnering with key potential partners such as global companies, organization, government agencies, investors.

02

Open Ecosystem Networking

Open networking to build local network and share global market insights with global innovation leader including local startups and ecosystem stakeholders.

03

Open Innovation Insight Session

Opportunity to hear open-innovation strategic insights on what should be considered to expand the global market from top players in the global startup ecosystem.

04

K-Startup Showcase

Showcase for promising Korean startups to introduce their technology and growth strategies to potential partners and form business partnerships.

01

Technology R&D

Discover opportunities for joint research cooperation and creating partnerships among technology companies.

02

Business Development

Discovery potential customers, PoC and Business cooperation with potential customers.

03

Investment

Initiating connections between promising Korean startups and global investors.

04

Startup Ecosystem Networking

Sharing market information and building networks between Korean startups and global players.

DAY 1
Timetable & Agenda

Time	Program	Details	Speaker / Moderator
10:00 ~ 10:30 (30′)		Welcome Reception	
10:30 ~ 10:40 (10′)	Opening Remarks	Welcome Speech & Introductory Remark	Jisun (Julia) Lee CEO, MUST Accelerator
10:40 – 11:10 (30′)	Partner Session	Open Innovation & Collaboration	Sharon CHAN Head Johnson & Johnson Innovation - JLABS Asia Pacific
11:10 – 11:25 (15′)	Open Innovation Session	Open Innovation Session #1 Open Innovation in Consumer Healthcare Health in Your Hands	Debjit Dutta Global R&D Lead Physical and Mental Wellness, Sanofi CHC
11:25 – 11:40 (15′)		Open Innovation Session #2 Clinical Trial Accelerate Your Research Today	Keefe Chng Executive Director, Crown Bioscience
11:40 – 11:55 (15′)		Open Innovation Session #3 Collaboration Platform Translational Development of Biomedical Technologies	Ervinna Pang Director, co11ab
11:55 - 13:00 (65′)	Lunch	Lunch & Networking	
13:00 - 13:05 (5′)	Ecosystem Talks	Introduction of Major Players in APAC Ecosystem Open Innovation & Collaboration	Organon
13:10 - 13:30 (20′)	Investor Panels	Connect with Investors in APAC	SG Innovate, Heritas and Invited Investor Panels
13:30 - 14:20 (50′)	Startup Showcase	Korean Bio Startup Pitch Session	1 ImmunAbs 2 INEXOPLAT 3 MicrobiotiX 4 RudaCure 5 VSPharmTech 6 Jnpmedi
14:20 - 17:20 (3h)	Business Partnering	Innovation 1:1 Business Meeting & Networking	

DAY 1 TOPIC
Bio-Pharmaceuticals

1 ImmunAbs

#Autoimmune diseases #Antibody Pharmaceutical #Antibody therapeutics

ImmunAbs, founded in 2017 by experts in global standard antibody therapeutics development, is a clinical-stage biotech company with a mission to revolutionize the treatment of autoimmune diseases. ImmunAbs aims to achieve complete inhibition of complement activation, addressing the lingering symptoms like fatigue and pain that patients often experience even after receiving standard care, significantly impacting their daily lives.

2 INEXOPLAT

#Oncology #Solid cancer #Exosome #Immunotherapeutics #TME

Inexoplat is a biopharmaceutical company developing exosome-based immunotherapeutic. We are currently developing drugs that remodel tumor microenvironment by activating innate immune cells through targeted delivery of drugs to those cells.

3 MicrobiotiX

#Healthcare #Infectious diseases #Antibiotic resistance #Phage Therapy

MicrobiotiX is a biotech venture company derived from Yonsei University's College of Medicine, a top-tier general hospital in Asia. MicrobiotiX provides specialized lytic bacteriophage treatment for multi-drug resistant pathogens through synergetic research efforts aimed towards bacteriophages, the microbiome and the phageome. MicrobiotiX aims to develop treatment for unmet treatment needs for autoimmune and metabolic diseases.

4 RudaCure

#Biotech #Pre-clinical #Dry Eye Disease #Chronic Pain

RudaCure is a pre-clinical biotech company dedicated to developing treatments for incurable diseases with sensory based disorders and high unmet needs. GTPases and transmembrane proteins are the targets of focus for RudaCure's broad pipeline of drug candidates, which is also optimized to be uniquely positioned to address the limitations of currently available therapies.

5 VSPharmTech

#Drug repurposing #Radiosensitizer #Migrastatic

VSPharmTech is a clinical-stage biotech company with an aim to advance lifesaving new drugs and healthcare solutions. Pioneering the development of new breakthrough novel therapeutics for cancer in a safe, fast and effective process, VSPharmTech's innovative pipelines include radiosensitizer,chemosensitizer and migrastatic based on the use of RWE research and A.I.

6 Jnpmedi

#Healthcare Digital Transformation #clinical trials

JNPMEDI is an eClinical Solutions provider that services Maven Clinical Cloud, an end-to-end clinical trial solution that collects, manages, and assesses data captured during a clinical study. Its modular and SaaS design allows for a customized design that fits trials of all shapes and sizes at an optimal price.

DAY 2
Timetable & Agenda

Time	Program	Details	Speaker / Moderator
10:00 ~ 10:30 (30′)		Welcome Reception	
10:30 ~ 10:40 (10′)	Opening Remarks	Welcome Speech & Introductory Remark	Jisun (Julia) Lee CEO, MUST Accelerator
10:40 – 11:10 (30′)	Ecosystem Talks	Introduction of Major Players in APAC Ecosystem Open Innovation & Collaboration	APACMed
			Action Community for Entrepreneurship(ACE)
			Singapore Health Technologies Consortium(HealthTEC.SG)
			German Entrepreneurship Asia (GEA)
11:10 – 11:25 (15′)	Open Innovation Session	Open Innovation Session #1 Open Innovation Investing in the Future of Health Technology	Yeonjung Park Senior Associate, Philips Ventures
11:25 – 11:40 (15′)		Open Innovation Session #2 Market Development and Expansion Healthcare Market Intelligence and Insight	Devanathan Raghunathan HealthTech & MedTech Leader, PWC
11:40 – 11:55 (15′)		Open Innovation Session #3 PoC & Clinical Research Scientific Collaborations and Research Innovation	Yvanka Gilliam Deputy Director, Singapore Clinical Research Institute (SCRI)
11:55 - 13:00 (65′)	Lunch	Lunch & Networking	
13:00 - 13:05 (5′)	Ecosystem Talks	Introduction of Major Players in APAC Ecosystem Open Innovation & Collaboration	MedTech Innovator
13:10 - 13:30 (20′)	Investor Panels	Connect with Investors in APAC	VentureBlick, Pureland and Invited Investor Panels
13:30 - 14:20 (50′)	Startup Showcase	Korean Bio Startup Pitch Session	1 Neurive 2 Neurophet 3 3R INNOVATION 4 Smartooth 5 Portrai 6 ABLELabs
14:20 - 17:20 (3h)	Business Partnering	Innovation 1:1 Business Meeting & Networking	

DAY 2 TOPIC
MedTech & Digital Healthcare

1 Neurive

#Neuromodulation #Vagus Nerve Stimulation #Tinnitus #Degenerative Brain Disease

Neurive is pre-clinical-stage company taking a targeted approach in the development of electroceutical medical device for the treatment of variety of degenerative brain disease. Neurive has developed ASENS (Auricular Sound and Electric Nerve Stimulation) technology and it can stimulate auricular branch of vagus nerve effectively and increase brain plasticity and brain function.

2 Neurophet

#AI #Healthcare #Brain atrophy analysis #Hyperintensity analysis

Neurophet is a company focusing on overcoming brain diseases using deep learning artificial intelligence (AI)-based neuroimage analysis software. Neurophet products help diagnose brain diseases such as Alzheimer's disease and stroke by segmentation, measuring the volume of brain regions and the status of biomarkers related to brain diseases.

3 3R INNOVATION

#Youth Mental Health #Digital Phenotyping #Continuous Monitoring and Diagnosis #GPT

Dr. Simon is an innovative mental health service that harnesses the power of cutting-edge technologies to provide personalized care and support. By leveraging digital phenotypes for diagnosis and GPT AI for care and intervention, Dr. Simon offers revolutionary approach to mental health care.

4 Smartooth

#Dental Healthcare #Dental monitoring #Dentalcare solution #Laser Fluorescence

Smartooth is a dentalcare solution company which makes the detecting device that measures the tooth status and let user know the numerical value depending on the decay level and help to monitor the measured data to follow up the status through mobile application.

5 Portrai

#SpatialTranscriptomics #Biomarker #DrugDiscovery

Portrai is at the forefront of revolutionizing drug development processes by integrating spatial transcriptomics with artificial intelligence (AI). Portrai enables a higher level of precision and effectiveness in identifying promising targets for new drugs and enriches biomarker discovery. By analyzing the spatial contexts of all molecules within a tissue, Portrai can pinpoint the drugs with superior microscopic distribution and those that excel in terms of mode of action.

6 ABLELabs

#Robotics #LabAutomation #LiquidHandling

ABLE Labs is a pioneering biotech firm, committed to democratizing the bioresearch landscape with automation robotic solutions that empower researchers to make groundbreaking discoveries. At the heart of their mission is Notable, ABLE Labs flagship Liquid Handling Robot, designed to bring precision and efficiency to every bio-laboratory. ABLE Labs seeks to make automation accessible beyond just elite institutions, ensuring even smaller laboratories can harness the power of state-of-the-art technology.

Sponsors

Ministry of Trade, Industry and Energy

ifez Incheon Free Economic Zone

ITP INCHEON TECHNOPARK

beyond leading technology KIAT

Shinhan Financial Group

Program Partners

Johnson & Johnson INNOVATION | JLABS

Shinhan S² BRIDGE INCHEON

biohub SEOUL BIO HUB

Introduce Sponsor

Ministry of Trade, Industry and Energy

Established in 1948 with a mission to coordinate the nation's industries, the Mistry of Trade, Industry and Energy(MOTIE) is committed to providing a foundation for economic growth by combining its efforts to fulfill its wide range of responsibilities in the areas of commers, investment, industry, and energy. Throughout its history, the MOTIE has taken on expanded roles and responsibilities, helping to transform South Korea into a dynamic and economic powerhouse.

ifez Incheon Free Economic Zone

Incheon Metropolitan City and Incheon Free Economic Zone Authority(IFEZ) is located in the center of the Northeast Asian Economic Zone(Songdo) and actively works to create an innovative Startup Ecosystem. Based on world-class business infrastructure, the city of Incheon is creating synergy through high-tech industries and collaborations with renowned industries, universities, and research institutes to create a leading global market. Through these efforts, Incheon seeks to leap forward as the world's largest bio-healthcare complex and lead the 4th industrial revolution. Leading domestic and international bio companies have moved in and are actively engaged in business activities. In the future, Incheon will flourish with synergistic accomplishments through the establishment of a bio-convergence industrial technology complex.

KIAT Korea Institute for Advancement of Technology

KIAT is an Advanced Institute of Technology that was established in 2009 May as a quasi non-governmental organization under Ministry of Trade, Industry and Energy. KIAT has been conducting various enterprises ranging from industrial technology policy planning to academic-industrial collaboration, local industry promotion, middle-standing enterprises support, technology commercialization, research foundation building, material components industry support, and international technical cooperation. Technological development in numerous areas such as AI, big data, IoT (Internet of Things), moving networks for 5G communication systems, has significant impact on the entire field of economy, society and industry.

ITP INCHEON TECHNOPARK

Incheon Technopark(ITP) is the basis for nurturing local industry by identifying and nurturing knowledge-based hidden champions with the establishment of organic cooperation network with local innovation institutions including industry, academia and research institute and stablishment of strategies and policies for industrial development that are appropriate for the local condition and characteristics.
ITP is vitalizing the local economy and improve the quality of life of Incheon citizens by developing the future industry and technology of Incheon metropolitan city, and enhancing the value of SMEs.

Shinhan Financial Group

Shinhan Financial Group was founded in 2001 as the first private financial holding company in Korea and covers the entire financial industry with 15 group companies and continues to make the way for the global dream to become reality through 200 channels in 20 countries.With the group's vision of "Easier, More Comfortable, Newer Finance", the group provides customers with various financial services to improve society as whole. The group is taking the lead in establishing common value for mankind with the Group's Environment, Social, Governance (ESG) Slogan of "Do the Right Thing for a Wonderful World" and is continuing the mission of "Benefitting the World through Finance", taking pride in the group's 40-year history of innovation.

Introduce **Program Partners**

Johnson & Johnson INNOVATION | JLABS

Johnson & Johnson Innovation – JLABS is a global network of open innovation ecosystems, enabling and empowering innovators across a broad healthcare spectrum including pharmaceutical, medical device, consumer and health tech sectors to create and accelerate the delivery of life-saving, life-enhancing health and wellness solutions to patients around the world. JLABS achieves this by providing the optimal environment for emerging companies to catalyze growth and optimize their research and development by opening them to vital industry connections, delivering entrepreneurial programs and providing a capital-efficient, flexible platform where they can transform the scientific discoveries of today into the breakthrough healthcare solutions of tomorrow. At JLABS, we value great ideas and are passionate about removing obstacles to success to help innovators unleash the potential of their early scientific discoveries. JLABS is a no-strings-attached model, which means entrepreneurs are free to develop their science while holding on to their intellectual property. JLABS also produces campaigns to seek out the best science called QuickFire Challenges. For more information, visit www.jlabs.jnjinnovation.com or follow @JLABS.

Shinhan S² BRIDGE INCHEON

Shinhan Square Bridge (S2 Bridge) Incheon is a startup acceleration platform that support the growth of startups in cooperation with government agencies and the private sector. S2 Bridge was established as the first public-private Startup Acceleration Platform in South Korea, with the dream of becoming a global startup innovation growth hub. Shinahn Square Bridge (S2 Bridge) Incheon is located in Songdo, a city a South Korea recognized as a global business center and biocluster. Key partnering organizations include Shinhan Financial Group, a leading global financial group that supports an innovative investment ecosystem, and Celltrion, a global biotech company that supports open innovation opportunities to accelerate promising biotech startups, and Incheon Metropolitan City that actively helps to foster the local biotech infrastructure. From the seed to global expansion stage, S2 Bridge focuses on accelerating life science startups based on their innovative technologies. The firm focuses on startups in all fields of life sciences, including novel therapeutics, microbiome, medical devices, and digital health to enter the global market and attract investment.

biohub
SEOUL BIO HUB

Seoul Bio Hub collaborates with biotechnology start-up enterprises that are actively engaged in research and innovation, demonstrating perseverance in the face of challenges.
Seoul Bio Hub serves as a foundational pillar for biomedical start-up ventures, offering an optimal infrastructure to support bio-innovators in their preparations for emerging industries. It fosters an environment conducive to entrepreneurship, where mentors and mentees engage in mutual growth and development.

K-STARTUPS
INTRODUCTION

ImmunAbs

Development of Complement C5-inhibiting antibody for Autoimmune diseases

Industry Pharma

- **Target Indication**
  Severe autoimmune diseases including but not limited to generalized Myasthenia Gravis
- **Future indicationas**
  variety of neurological disorders
- **Technology**
  monoclonal antibody

Established
Nov. 2017

Headquater
Seoul, South Korea

Intellectual Property

- Exclusive worldwide license to all technology
- Several issued patents covering composition of matter and methods of treatment through 2034
- Pending patents could extend IP coverage through 2034

Non-Dilutive Funding to Date

$2.5M in KDDF & KISED grants

Seeking a $30m Series B Round

ImmunAbs, Inc. anticipates achievement of the following milestones post financing

Stage

- Completion of Phase 1 in the US (6 months)
- IND Submission for Phase 2a of IM-101 (12 months)
- Complete Phase 2a studies of IM-101 (36 months)
- Completion of IND enabling study for IM-102(30 months)
- IND submission of Phase 1

Contact

Name Dongjo Kim
E-mail dongjo.kim@immunabs.com
Website www.immunabs.com

Executive Summary

- ImmunAbs is dedicated to enhancing treatments for autoimmune disorders through the utilization of antibody-based therapeutics
- ImmunAbs adopts the strategy of suppressing complement system hyperactivity to reduce symptoms and disease relapse in patients with autoimmune diseases
- Leading the pipeline of ImmunAbs is IM-101, a humanized monoclonal antibody that binds to complement C5 with high affinity via distinct epitopes from those of approved C5 inhibitors.
- Compelling efficacy data of IM-101 demonstrated its unparalleled inhibitory effectiveness on complement activation via both classical and alternative pathways
- IM-101 is currently undergoing phase 1 clinical trial in the United States, which will likely conclude in the first quarter of 2024, followed immediately by the beginning of phase 2 study indicated for generalized myasthenia gravis (gMG)
- We have faith in expanding the indications beyond gMG, including neuromyelitis optica spectrum disorder (NMOSD), Guillain Barre Syndrome, and nephropathies.

Management

- Dongjo Kim, Ph. D.: Executive Chairman & CEO
- Kisu Kim, Ph. D. : Chief Scientist
- Seongho Shin, J.D. :Chief Financial Offier

Advisory Team & Board of Directors

- Junho Chung, M.D., Ph. D. at Dept. of Biochemistry, SNU College of Medicine(SAB)
- Tuan Vu, M.D. at Dept. of Neurology, USF(SAB)
- Eunha Kang, MD, Ph.D. at Dept. of Internal Medicine, SNUH(SAB)
- Dongjo Kim, Ph.D. as a board of directors
- Kisu Kim, Ph.D. as a board of directors
- Bumjun Kim as a board of directors

Market Opportunity/Unmet Need

- Generalized myasthenia gravis (MG) is an autoimmune disorder in which excessive autoantibodies are produced to attack the acetylcholine receptors at neuromuscular junctions
- Generalized MG manifests as droopy eyelids, difficulty breathing and talking, and a significant decline in the ability to perform daily activities
- The prevalence of MG varies between 7 to 32 per 100,000 population globally, with around 80% progressing to develop generalized MG(gMG). The Incidence of MG ranges between 0.7 to 2.3 new cases per patient-year on a global scale
- Current treatments that mainly act on removing autoantibodies fail to reduce rates of disease relapse in gMG patients
- Soliris and Ultomiris, recently sanctioned C5 inhibitors, have successfully decreased disease relapses in gMG patients. However, the relatively high residual complement activities post-treatment have led to dissatisfaction in over 30% of patients regarding therapeutic results
- Existing complement inhibitors are also associated with high adverse event rates, in particular the headaches
- Most of current complement inhibitors target either classical or alternative pathway of complement activation, whereas increasing evidence indicate that both classical and alternative pathways contribute to the disease progression of many autoimmune diseases

ImmunAbs, Inc. Pipeline / Product

- IM-101 shows potential as a best-in-class antibody treatment for autoimmune diseases
- In ex vivo analyses employing serum samples from both healthy volunteers and autoimmune disease patients, IM-101 demonstrated efficacy that surpasses existing complement inhibitors
- The superior efficacy of IM-101 in complement inhibition is possibly acquired through a unique epitope and exceptional drug-target residence time
- IM-101 has displayed general tolerability at all dose levels up to 3,200mg, with no serious adverse events reported to date in the ongoing phase 1 clinical trial in the U.S.
- An interim analysis, conducted prior to data cleaning, indicates that the ex vivo hemolysis data correlates well with human clinical study data
- IM-101 has the potential to be the pioneer C5 inhibitor capable of fully eliminating complement activities in patients, thereby setting a new standard in the field of complement inhibitory therapeutics
- ImmunAbs engineers IM-101 for the treatment of geographic atrophy (IM-102)
- Geographic atrophy is degenerative disease of the retina, and it is projected to affect approximately 9 million people globally by 2040. While both the alternative pathway(AP) and classical pathway(CP) contribute to the pathogenesis of age related macular degeneration, the current inhibitors primarily target the inhibition of the AP. IM-102 effectively inhibits both the AP and CP, suggesting potential for improved efficacy in human clinical studies.

Technical Milestones Achieved Traction & Achievements

- The preclinical evaluation of the IM-101 has confirmed that it has favorable pharmacological profiles
- Promising efficacy and safety data from preclinical evaluation of IM-101 gained FDA approval for phase 1 clinical trial
- An interim analysis, conducted prior to data cleaning, indicates a strong correlation between ex vivo hemolysis data and human clinical study data
- Extensive basic science, market research, and regulatory studies have identified generalized myasthenia gravis and neuromyelitis optica spectrum disorder as suitable targets for IM-101

Competitive Analysis and Competitive Advantage

Competitive Analysis

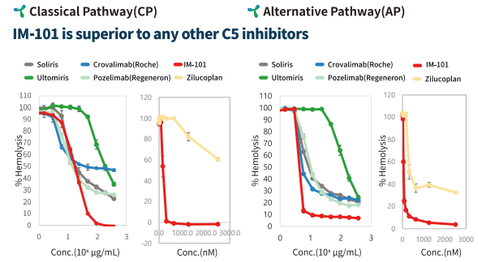
- Acetylcholinesterase Inhibitors (e.g., Pyridostigmine)
- Glucocorticoids + Immunosuppressants (IS)
- Chronic IVIG/PLEX or Eculizumab or Rituximab or Cyclophosphamide

Competitive Analysis

- Point 1. Acetylcholinesterase inhibitors such as Pyridogstimine can be prescribed for symptomatic control, and are effective in mild gMG patients. However, these drugs often yield non-uniform responses and can lead to cholinergic side effects like abdominal cramping, diarrhea. Additionally, there's a potential for cholinergic crisis(weakness following prolonged use of these drugs)
- Point 2. High-dose glucocorticoids(GC) induce remission in approximately 30% of patients. Nonetheless, there's a risk of transient worsening with high-dose GC use (approximately10% patients have experience respiratory failure) and relapse is likely if the dose is tapered too quickly. Moreover, treated patients may experience side effects such as weight gain, mood disorders, physical deformities, fatigue, risk of infections, cardiovascular risks
- Point 3. Immunosuppresants, like azathioprine, have improved symptoms in 70-90% of MG patients. However, these drugs exhibit a delayed onset of action (6-12 months) and may lead to renal toxicity, especially with Calcineurin Inhibitors. Among biologics, anti-complement C5 antibody display superior activity compared to other biologics. It comprises approximately 4% of the prescription market in the US. ImmunAbs, however, foresees that anti-complement C5 inhibitors will capture a significant portion of the prescription market for generalized myasthenia gravis due to their long-term safety and efficacy

Additional Information

- The ImmunAbs team is composed of strong and experienced individuals, each with 8 to 17 years of experience of biotech industry. A majority of the core members hail from Celltrion, a global pioneer and leader in monoclonal antibody biosimilars
- Patents have been successfully granted in seven countries including the US, Canada, China, Japan. Additionally, the patent applications have been filed in the EU and Brazil



INEXOPLAT
LIFE IS HERE

Developing Exosome-based immuno-oncology drugs to remodel TME

Industry Pharma

- **Target Indication**
  Refractory solid cancers (primarily pancreatic cancer)
- **Future indicationas**
  Refractory solid cancers (glioblastoma, lung cancer)
- **Technology**
  Immune stimulating exosome

Established
Mar. 2021

Headquater
Incheon, South Korea

Intellectual Property

- Patent for method for iPSC-derived MSC Cell Line establishment and its application (including exosome derived from this cell culture supernatant and its appliation).
- Several filed patents covering methods for manufacturing exosome with therapeutic potentials, composition of exosome, methods of treatment, and their therapeutic effects.
- Patents have been filed under the Patent Cooperation Treaty (PCT) application to obtain international rights.
- Major patents are currently under examination at the Korean Intellectual Property Office.
- Pending patents could extend IP coverage through 2043

Contact

Name YoonYoung Kim
E-mail yoonyoung.kim@inexoplat.com
Website www.inexoplat.com
Linkedin linkedin.com/in/yoonyoung-kim-31a904105

Executive Summary

- INEXOPLAT is a pre-clinical-stage company developing novel biopharmaceuticals by leveraging exosomes to overcome the limitations of existing drugs.
- We aim to provide new opportunities to patients suffering from diseases, through a well-balanced organization composed of experts in biopharmaceutical development, CMC, and quality management.
- Our main pipeline, IEP-01 remodels tumor microenvironment, activates immune cells in tumor, and eventually reduces cancer progression in various solid tumor models.
- We are planning preclinical toxicity studies. Upon obtaining GMP-grade material production, additional detailed in vivo experiment results, and toxicity data, we intend to submit IND by early 2025.
- While prioritizing pancreatic cancer, we aim to expand indications of IEP-01 to various cancer types. Furthermore, we intend to develop a diverse pipeline including anti-cancer vaccines and immune-modulating exosomes.

Management

- **Sunghwan Kim** Founder & CEO
- **Jungmin Lee Founder** & CSO

Advisory Team & Board of Directors

- **Jong Woo Ryu** Patent attorney, IP advisor

INEXOPLAT Pipeline / Product

- Our proprietary MSC cell line established from iPSC by chemical induction, ciMSC (Chemically induced MSC), is optimally tailored for MSC-based therapeutic development. It demonstrates marker expression and differentiation capacity for MSCs comparable to those of primary cells. Moreover, ciMSC maintains its cell division potential over extended passages, mitigating qualitative discrepancies thereby guaranteeing consistent quality.
- Through our specialized process, ASEP (Additive Stimulant for Exosome Priming), we modify cell culture conditions to induce exosome-producing cells to secrete exosomes with maximized therapeutic efficacy.
- We have also developed an efficient exosome purification process named APEx (Additionally Purified Exosomes), utilizing column-based chromatography technology. This facilitates seamless scalability for further commercial application.
- Our leading pipeline IEP-01 is an exosome based anti-cancer immunotherpeutics encapsulating immune stimulators (TLR agonists) that bridging innate immunity and adaptive immunity.
- To overcome the shortcomings of existing TLR agonists, including low target specificity, reduced in vivo pharmacodynamics, and resultant high side effects, we have developed exosomes encapsulating TLR agonists using the ASEP technique. IEP-01 not only includes TLR agonists but also incorporates various cytokines and miRNAs originated from ciMSC that enhance immune function, effectively activating immune cells synergistically.
- By activating innate immunity, IEP-01 efficiently remodels the tumor microenvironment, enhancing the ability of immune cells to target tumors and consequently suppressing tumor growth

Technical Milestones Achieved Traction & Achievements

- To maximize the therapeutic potential, we have screened the optimal immune stimulators and various culture conditions.
- Preclinical evaluation of the IEP-01 has confirmed selective uptake of IEP-01 in macrophages/dendritic cells and activation of those cells. It remodels the tumor microenvironment and helps immune cells attacking tumor cells, and consequently controls tumor growth.
- These anticancer effects have been observed in various mouse tumor models, including colon cancer, melanoma, and pancreatic cancer, where conventional immune checkpoint inhibitors showed limited efficacy. Additionally, no significant toxicity was observed.
- It has been confirmed that IEP-01 is effective both when administered within the tumor and through intravenous injection. Also, IEP-01 shows dose-dependent anti-cancer effect.
- We have selected CMC parameters and established analysis methods for key components within IEP-01.
- To rapidly scale up, we have integrated bioreactor-based cell culture and a column-based purification process for large-scale exosome production, alongside product research.

Market Opportunity/Unmet Need

- Cancer is the second leading cause of death worldwide. And the cancer market size is increased annually.
- Despite the advent of cancer immunotherapeutics, the limited response rates of immune checkpoint inhibitors (ICIs) in various solid tumors have led to discouraging results. This reduced response rate is linked to the evolution of the tumor microenvironment as the tumor advances.
- Among various solid tumors, pancreatic cancer is notorious for its poor prognosis. The 5-year survival rate for pancreatic cancer remains as low as 8.7%, and due to its strong tumor microenvironment (TME), immune checkpoint inhibitors (ICI) are very ineffective.
- The global pancreatic cancer treatment market is projected to grow at an average annual rate of 10.64%, reaching $4.11 billion in 2023.
- With a lack of effective treatments, we wish to get the fast track designation and breakthrough therapy designation, allowing rapid market entry.
- Although there have been numerous attempts to use TLR agonists for TME remodeling, their low pharmacokinetics and significant systemic toxicity are major drawbacks. Particularly, due to low target specificity and toxicity, they are primarily administered intratumorally, which is highly invasive. IEP-01, on the other hand, offers ease of administration through intravenous injection.
- In theory, IEP-01 could have broad applicability across various solid tumor types. As a result, we plan to expand its indications to intractable cancers such as lung cancer and glioblastoma, where effective treatments are currently lacking.

Competitive Analysis and Competitive Advantage

Codiak Bioscience

- It was a leading exosome company targeting solid tumors.
- Delivers IL-12, STAT6 miRNA, or STING agonist intratumorally to control tumors.
- Uses HEK293 cells (having safety risk).
- We believe that the current situation could become a new opportunity as Codiak Bioscience, which was once the strongest competitor, enters the bankruptcy process.

Evox Therapeutics

- Delivers AAV, CRISPR, mRNA, protein, or siRNA to target rare diseases.
- Preclinical stage biotech that collaborates with Takeda and Eli lily.
- Customized cell lines are individually required for each pipeline.
- Not suitable for large-scale manufacturing.
- Small market size

Mersana Therapeutics

- Its major pipeline, XMT-2056 is STING agonist conjugated to HER2 (ADC).
- Designated as orphan drug designation.
- GSK secured a license option for global exclusivity through a contract totaling $1.36 billion and made a payment of $100 million as a contract fee.
- Limited applicability according to HER2 expression in tumors

MicrobiotiX

Bacteriophage-based
antimicrobial and microbiome-regulating therapies

Industry Biotech

- **Target Indication**
  Acute Pseudomonas aeruginosa infections in nosocomial pneumonia patients
- **Future indicationas**
  multiplicity of bacterial infections, metabolic diseases, and autoimmune diseases
- **Technology**
  natural and engineered phage platform

Established
Nov. 2016

Headquater
Seoul, South Korea

Intellectual Property

- Patent pending for composition of and methods of use for MP001, coverage extending past 2040
- Numerous trade secrets within the realm of phage production
- Proprietary 300+ library of lytic phages

Non-Dilutive Funding to Date
$6M in Korean-government awarded grants

Contact

Name Brandon Sharp
E-mail brandon.s@microbiotix.net
Website microbiotix.net
Linkedin linkedin.com/company/microbiotix-co-ltd

Executive Summary

- MicrobiotiX is a preclinical stage biotech company specializing in developing bacteriophage-based therapeutics for the treatment of diseases caused by the presence of pathogenic bacteria or a dysregulated microbiome
- MicrobiotiX's phage-based therapies are able to target general infections as well as the growing subset of Gram-negative, multidrug-resistant bacterial infections; addressing a large unmet clinical need
- In addition to being able to eliminate both antibiotic susceptible and resistant strains, our state-of-the-art drug series offers many advantages over the incumbent standard-of-care antibiotics; mainly that it offers a precision method to eliminate the pathogenic bacteria while leaving the commensal bacteria untouched all with maintaining an impeccable safety profile.
- Creation of an engineered phage platform, employing CRISPR-Cas9 techniques to assemble a more effective therapeutic by broadening the phage's host range and minimizing the occurrence of resistance will be applied to future products
- Our quick drug discovery process is aided by a top-tier phage library that targets 4 of the WHO's critical priority pathogens (A. baumannii, P. aeruginosa, E. coli, and K. pneumonia)

Management

- **Dongeun Yong, MD, PhD** CEO & Scientific founder
- **Chiyoung Lee** CFO

Advisory Team & Board of Directors

- **Sangkil Lee**, MD
- **Jaehee Cheon**, MD
- **Junyoung Choi**, MD
- **Moosuk Park**, MD

MicrobiotiX Product / Pipeline

- MP001, our first product, consists of a profile of 2 complimentary phages, φ1 and φ 2. Each are genetically distinct from one another and have unique receptor binding targets designed so that resistance is unlikely to develop even under prolonged use case scenarios.
- Lead compound, MP001, is highly effective in decreasing the bacterial load in both systemic and lung infection models lending to a significant increase in the survival rate of the murine test models, using susceptible antibiotics as the comparator.
- MP001 has proven to be effective against multidrug-resistant Pseudomonas aeruginosa strains in vivo, including Carbapenem-resistant strains, achieving clearance of said strains without the undesirable side effect of microbiome dysbiosis from the use of an antibiotic.
- Strain specific proteins displayed on the outer surface of the target bacteria are being pursued as a target of genetic engineering to broaden host range, this technology is set to be implemented with all future products following MP001.
- Other leading compounds have shown in-vitro tests displaying an ability to lyse the bacteria A. baumannii, E. coli, and K. pneumonia offering us the ability to pursue a variety of indications. Of particular interest are UTIs as they are one of the most common infection types with the leading causative agent being E. coli, followed by K. pneumonia.
- We expect all of our developed compounds to display a similar safety profile as our production methods of phage eliminate the majority of risks associated with phage-based therapies.

Technical Milestones Achieved Traction & Achievements

- Preclinical evaluation of MP001 has concluded that there exists a desirable pharmacological effect justifying the continued development and possible use as a therapeutic.
- Extensive preclinical evaluations have shown that our phage test material is well-tolerated at concentrations exceeding 1010 PFU/mL while no compound related safety concerns will dictate an upper limit of dosing.
- MP001 is efficacious with intravenous dosing, selectively eliminating the P. aeruginosa population with minimal off-target effects, demonstrating therapeutic efficacy and safety in animal models. Oral formulation has shown efficacy in proof-of-concept based experiments.
- Necessary CMC is completed for the scaled-up production of MP001 to be used in the approaching clinical trials

Market Opportunity/Unmet Need

- The CDC and WHO have designated 7 pathogens as critical risk threats to our global health. These are labeled the "ESKAPEE" pathogens (E. faecium, S. aureus, K. pneumoniae, A. baumannii, P. aeruginosa, Enterobacter spp., and E. coli).
- This group of gram-negative bacteria is a high global threat due to their intrinsic ability to form resistances to even the most powerful antibiotic classes.
- MicrobiotiX's phage library has 300+ lytic bacteriophages that target 4 out of 7 of these "ESKAPEE" pathogens with high efficacy results shown in vitro and in vivo models.
- There are currently no approved FDA drugs for bacteriophage therapy, however, compassionate use cases have been approved and are being widely executed.
- Organizations like the WHO, CDC, and FDA list phage therapy as one of the most viable alternatives to antibiotics.
- Antibiotics are the foundation of modern medicine. An effective antibacterial solution is needed for even the most common procedures. Without one, these antibiotic-resistant infections are expected to take the lives of 10 million people annually by the year 2050.
- Therapy for the targeted indications of pneumonia, UTI, and IBD are $10 billion, $10 billion, and $20 billion respective global markets.

Competitive Advantage

A comprehensive phage library

An established library focused on targeting the most frequently occurring antimicrobial-resistant infections

Use of phage-drug conjugates

- Exploring the use of phage as a vector for small molecule antibiotics allowing for more directed antibiotic delivery with greater effect
- Exploring the use of phage as a vector for antibody delivery across the blood-brain barrier to eliminate cancerous cells

Use of high-resolution structure mapping

- Creating a 3D structural analysis of the receptor-binding proteins of the phage in our library to better understand and select for desirable characteristics in our drug-development models

Synergetic microbiome-based resources

- The collection of microbiota samples through the provision of fecal microbiota samples has given us the necessary background to research both the healthy and diseased states of the microbiome necessary for modulation with phage

Additional Information

- Established and operating a GMP-class facility for phage production since August of 2022.
- Establishment of a wholly-owned subsidiary in the United States was completed in May 2023. This subsidiary is a member of Johnson & Johnson Innovation, and will perform its duties out of JLABS@San Diego.

RUDACURE
For your quality and painless life

Treatments for diseases with sensory based disorders high medical unmet needs

Industry Pharma

- **Target Indication**
  Dry Eye Disease, chronic and neuropathic pain
- **Future indicationas**
  variety of neurological disorders
- **Technology**
  Rac1 & TRPV1 targeting drug discovery platform, small molecules, peptides

Established
July. 2018

Headquater
Incheon, South Korea

Intellectual Property(IP)
7 total patents across pipeline

Funding to Date
$5M in seed funding

Non-Dilutive Funding to Date
$2M in domestic R&D grants
(2018 – 2023)

Seeking a $30m Series B Round

With this funding, RudaCure aims to achieve the following goals

- Complete RCI001 FDA Phase 2
- Develop RCI002 to pre-IND/Phase1

Contact

Name Harith Hasrul
Business Development Associate
E-mail harith.hh@rudacure.com
Website rudacure.com

Executive Summary

- RudaCure is a pre-clinical biotech company dedicated to developing treatments for incurable diseases with sensory based diseases and high unmet medical needs
- RudaCure's multi-indication pipeline has stemmed from a drug discovery platform of two high potential targets, Rac1 inhibitors and transmembrane receptors (GPCRs and TRP channels)
- This drug discovery platform has led to treatments in development for inflammatory based indications such as dry eye disease, corneal ulcers, psoriasis, atopic dermatitis, as well as neuropathic and chronic pain
- RCI001 is a small molecule, Rac1 inhibitor for the treatment of Dry Eye Disease is RudaCure's lead program in development and is currently pre-IND for Phase 1 trials in Korea and Phase 2 in the US planned for 2024

Technical Milestones Achieved Traction & Achievements

RCI001 (Dry Eye Disease) – Rac1 inhibitor, ophthalmic solution & small molecule

- Pre-clinical studies with various models have demonstrated RCI001 to have superior tear secretion and corneal healing after 5 and 14 days compared to current treatments (0.05% cyclosporine, 5% lifitegrast, 3% diquafosol, 1% prednisolone acetate)
- RCI001 has demonstrated to have superior anti-inflammatory and oxidative stress-reducing effects in mice compared to steroidal treatments
- In January 2023, a pre-IND with the FDA regarding RCI001's Phase 2 IND submission was successfully completed, as the FDA had no additional comments regarding RCI001's pre-clinical data, toxicology data, CMC and clinical plan.

RCI002 (Neuropathic and Chronic Pain)- TRPV1 antagonist peptide

- RCI002 was originally discovered by Yongho Kim (CEO) from an endogenous protein during his post-doctoral research at Duke University School of Medicine
- Currently in lead-optimization, with peptide candidates optimized to a novel binding site on the TRPV1 ion channel, from an in-house drug optimization platform
- Efficacy studies have shown potent and superior pain relief compared to current treatments in various pain models for neuropathic and osteoarthritis pain
- RCI002 has also not seen any hyperthermia or hypothermia issues when tested on primates (marmosets) and non-primates (rats, mice)
- When compared to morphine, a strong opioid for moderate-strong pain, RCI002 demonstrated comparable pain relief but without the tolerance or dependency side effects seen with opioids

Management

가천대학교 Gachon University
Duke University School of Medicine

Yongho Kim (PhD)
Founder & CEO

yuhan CORPORATION

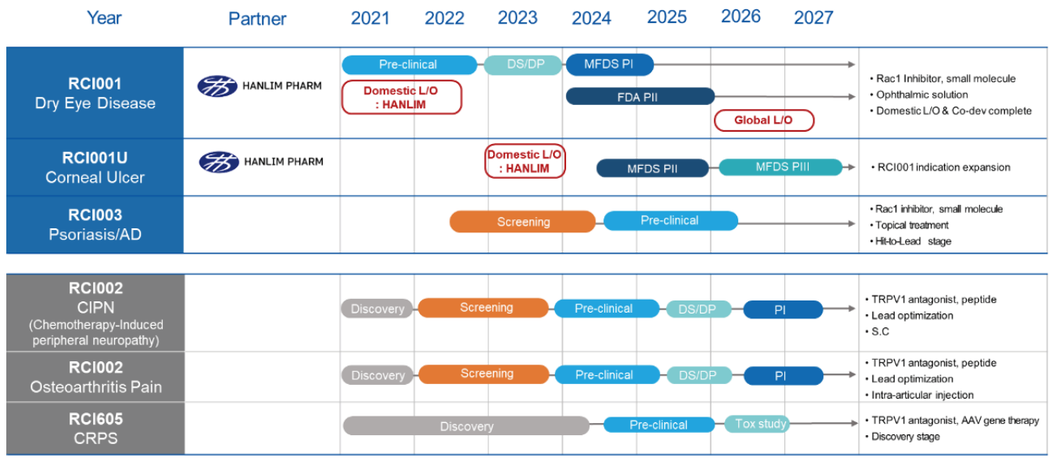
Seunghoon Kim (PhD)
Chief Operating Officer

Board of Directors

KU MC KOREA UNIVERSITY MEDICAL CENTER

Donghyun Kim (MD, PhD)
Director,
RCI001 lead investigator

Pipeline



Market Opportunity/Unmet Need

RCI001- Meeting patient's unmet needs for an effective and fast on-set treatment

- Dry Eye Disease (DED) is one of the most common ocular surface diseases, which affects 1.5 billion people globally, with a growing global market worth an estimated $6B
- Despite being such a prevalent disease, current treatments for it suffer from drawbacks such as having long treatment durations of up to 3-6 months, pain upon instillation, as well as low efficacy rates
- With RCI001's multimodal mechanism of action of potent anti-inflammation and reduction of oxidative stress, pre-clinical studies have shown it to be more effective in all aspects tested compared to current treatments such as 0.05% cyclosporine (Restasis) and 5% lifitegrast (Xiidra), to treat patients in an estimated 4 weeks, compared to 3-6 months
- When comparing RCI001's corneal healing abilities to corticosteroids, which are the most potent anti-inflammatory treatments available, RCI001 has demonstrated superior results without resulting in any long-term side effects, unlike corticosteroids

RCI002- Novel and innovative approach in the area of pain, which is in dire need of effective and safer treatments

- Chronic and neuropathic pain, which includes conditions such as osteoarthritis pain, chronic lower back pain, diabetic peripheral neuropathy (DPN) and chemotherapy-induced peripheral neuropathy (CIPN), are conditions with globally unmet needs as current treatments are ineffective and suffer from side-effects from long-term use
- RCI002's mechanism of action for treating pain works by blocking the activity of the TRPV1 ion channel via a novel optimized binding site, to stop the production of pain signals in nociceptive neurons without affecting brain activity, leading to a safer product profile without tolerance or dependency issues
- RCI002's innovative approach of being a peptide treatment in a field where it has traditionally seen oral, small molecule or intravenous treatments, has high market setting potential to improve drug dosing from daily dosing to bi-weekly/monthly dosing via subcutaneous injections
- RCI002 is also currently being developed as an intra-articular treatment for even longer pain relief for patients suffering from osteoarthritis pain, as well as an AAV gene therapy to treat complex regional pain syndrome (CRPS), an orphan drug indication

VSPHARMTECH

VSPharmTech(VSPT) is a clinical-stage biotechnology company focused on developing lifesaving new therapeutics in oncology.

Industry Biotech

- **Target Indication**
  Head and Neck Cancer
- **Future indicationas**
  Solid Tumors
- **Technology**
  Radiosensitizer

Established
Sep. 2018

Headquater
Seoul, South Korea

Intellectual Property

- 4 patents regarding composition and synthesis
- Registered in KR, PCT, US, EU, CN, JP, AU, etc.

Non-Dilutive Funding to Date

- $5.1M Investment by Series A
- $7M Government Grants by June 2023
- Currently secured $5.6M out of targeting $16.0M (Series B)

Contact

Name Jueun Park
E-mail jepark@vspharmtech.com
Website www.vspharmtech.com/
Linkedin www.linkedin.com/company/vspharmtech/

Executive Summary

- VSPharmTech(VSPT) is a private clinical-stage biotechnology company focused on developing lifesaving new therapeutics in oncology.
- We are dedicated to developing anticancer therapeutics with specialties in drug development in South Korea.
- VSPT is developing 3 promising investigational drugs ; enhancing the effect of radiotherapy and chemotherapy, and inhibiting the metastasis of cancer.
- Among them, VS-101 is our lead candidate. It is a potent oral radiosensitizer that enhances the sensitivity of cancer cells to radiation when combined with radiotherapy.
- VS-101 directly and indirectly enhances ROS and binds to IAP to cause DNA damage and tumor cell death, ultimately enhancing the efficacy of radiotherapy.
- VS-101 is currently under Phase I clinical trial in patients with HNC in South Korea, and received permission to proceed Phase 2 trial of VS-101 in the US from the FDA.

Management

Shin Young Park
CEO
- Renowned in new business development and technology commercialization
- Successful experience in M&A, Funding, IPO for healthcare industry

HyunHo Lee
Research Director
- Expert of drug development & regulatory with several approval in advanced regenerative medicine
- Engaged in establishment of the Advanced Bio Act/Cell Therapy Guidelines

Advisory Team & Board of Directors

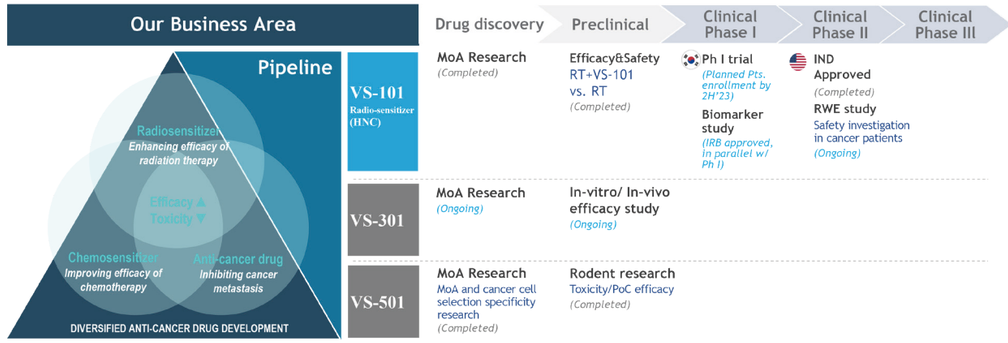
- **Myung-Jin Park** Ph.D
- **Prof. Hwang, In Gyu** MD
- **Sangil Jeon** Ph.D
- **Kongsik Kim** Ph.D

VSPT Pipeline / Product

- VS-101 is a drug that can be used together with cancer patients when receiving radiotherapy to enhance the effect of existing radiotherapy and control the side effects of radiotherapy by lowering the cumulative radiation dose.
- VS-101 is safe because it is developed by repurposing a drug that has been used on human beings for over 20 years after FDA approval.
- VS-101 is developed by Drug Repurposing instead of developing new substances as medicines, so it has the advantage of shorter development periods and lower development costs compared to general new drug development using new substances.
- VS-101 is expected to be applicable to a variety of cancer types that require radiotherapy, and development is underway with head and neck cancer as the primary carcinoma.
- VS-101 is completing patent registration in Japan, Europe, etc. sequentially, and is seeking to transfer patent technology to pharmaceutical companies that intend to introduce radiosensitizer VS-101, joint research and development, and attract investment.

Technical Milestones Achieved Traction & Achievements

- Pipeline



- Entered Phase 2 trial of VS-101 after receiving permission from the US FDA in July 2023.
- Investigator Initiated Clinical Trial (IIT) is in progress to acquire Real World Evidence (RWE) for safety
- 10 additional newdrug candidates discovered through MoA studies using AI.
- As for our traction, we have received about 10.6 million dollars investment and 7 million dollars government grants after the establishment.

Market Opportunity/Unmet Need

- Radiotherapy is one of the three major cancer treatment methods, and it is known that about 60% of cancer patients in the US/Europe receive radiotherapy.
- Currently, there is no treatment available as a radiotherapy effect enhancer in the global market regardless of carcinoma, and there are drugs and medical devices(Xevinapant, NBTXR3) under development.
- FDA and global pharmaceutical companies are interested in radiosensitizers, making radiosensitizer market grow in rapid speed.
- FDA designated 2 radiosensitizer candidates for their expedited program, and there have been 3 licensing deals of radiosensitizer by Debiopharm & Merck, Nanobiotix & LianBio, Nanobiotix & J&J.
- Also, global market of radiosensitizer is expected to be at least $8 billion.

Competitive Analysis and Competitive Advantage

Competitive Analysis

- In a preclinical study, it has been confirmed that VS-101's survival rate has been increased for about 30%.
- VS-101 is safe because it's made by repurposing a drug that has been used on human beings for over 20 years after FDA approval.
- An intensive effect is expected due to the work of multi-mechanisms compared to single-mechanism of competitive companies
- We have a team of experts in business and drug development in pharmaceutical industries who have worked in their industry for more than over 10 years.

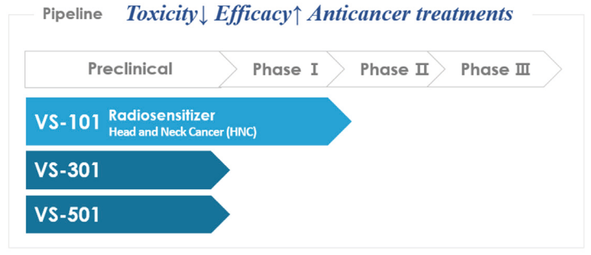
Competitive Advantage

- **Point 1.** Developed with 10% of the FDA-approved dose
  → Safety advantage over competitive products
- **Point 2.** Apoptosis and ROS generation synergy results(Non-clinical)
  → The efficacy will be confirmed through the blood of Korean clinical patients
- **Point 3.** Fast follower with high potential for clinical success compared to clinical design of competitive product
  (2 weeks use & 1 week off)

Additional Information

Pipeline Graph

- **VS-101** Radiosensitizer
- **VS-301** Chemosensitizer
- **VS-501** Migrastatic



JNPMEDI

JNPMEDI is an eClinical Solutions provider that services Maven Clinical Cloud, an end-to-end clinical trial solution focused on customization and client-value.

Industry IT

- **Target Indication**
  Clinical data management
- **Future indicationas**
  Medical data management
- **Technology**
  Blockchain and cloud

Established
July 2020

Headquater
Incheon, South Korea

Intellectual Property

- Worldwide trademark for all solutions
- Exclusive worldwide patent for data management systems

Non-Dilutive Funding to Date
$1.0M in TIPS grant

Contact

Name Jayden Joon Hyuk Lim
E-mail jh.jayden.lim@jnpmedi.com
Website www.jnpmedi.com
Linkedin https://www.linkedin.com/company/jnpmedi/

Executive Summary

- JNPMEDI, an IT service provider in the clinical research and trial operation space, offers clinical trial solutions of the highest level of data integrity and operational efficiency
- Maven Clinical Cloud, JNPMEDI's cloud-based clinical trial web-application, provides a true end-to-end solution for clinical trial data management and operational needs
- Maven Clinical Cloud is of SaaS architecture and can be customized to be lean andefficient for clinical trials of all designs and size
- JNPMEDI's proprietary blockchain technology allows tamper-proof security.

Management

- **Kwunho Jeong** Chief Executive Officer
- **Youngyong Park** Chief Technology Officer
- **Minseok Kim** Chief Business Officer

Advisory Team & Board of Directors

- **Soohyung Lew**
- **Seungjae Baek**
- **Heejung Ko**

XYZ Biotech Pipeline / Product

- Maven CDMSTM is a CDMS (Clinical Data Management System) solution built to collect, manage, and assess data capture during a clinical trial
- With EDC (Electronic Data Capture) as its cornerstone, Maven CDMSTM has a cloud-based and modular architecture allowing it to easily be scaled to cover client's needs across the entire clinical trial spectrum at the leanest price
- Maven eCOATM is a web-based subject survey and questionnaire solution
- Maven eCOATM is an SMS and web-based solution that does not require a separate device or application download, and effectively increases a subject's accessibility to clinical trials
- Data collected via Maven eCOATM can be monitored in real-time within the integrated EDC
- Maven DCT SuiteTM is DCT (Decentralized Clinical Trial)-enabling toolset that eliminates the temporal and geographical limitations from a traditional site-based clinical trial
- Maven DCT SuiteTM is comprised of modular DCT-enabling tools: Maven eRecruitment, Maven rScreening, and Maven eConsent
- Maven DocsTM is a clinical document lifecycle management tool designed to optimize the documentation process by "assetzing" its outputs
- Maven DocsTM provides a 21 CFR Part 11 compliant electronic signature tool and can serve as an eTMF (electronic Trial Master File)

Technical Milestones Achieved Traction & Achievements

- Maven CDMSTM launched, Q2 2021
- Maven CDMSTM WHODrug B3/C3 approval, Q1 2022
- First DCT clinical trial initiated, Q3 2022
- CDISC (Clinical Data Interchange Standard Consortium) Platinum Membership, Q4 2022
- Maven DocsTM launched, Q4 2022
- Maven SafetyTM launched, Q3 2023

Market Opportunity/Unmet Need

- Pharma and biopharma industry has been slow to adapt technology to efficiently bring innovative products to patients in need
- Within clinical trial industry, there are product heavy and turnkey legacy data management solutions that become a burden to smaller and cost-conscious R&D firms that are responsible for 90% of the active global R&D pipelines
- Vendors and tools used within a clinical trial is heavily fragmented in general, which directly results in issues during clinical trial in management
- Total Addressable Market: 7.0B USD Global Drug Discovery Solutions Market
- Service Available Market: 1.1B USD APAC Clinical Trials Solutions Market
- Serviceable Obtainable Market: 0.2B USD

Competitive Analysis and Competitive Advantage

Competitive Analysis

- Medidata (US)
- Viedoc (EU)
- CRSCube (Korea)

Competitive Advantage

- Point 1. **Full end-to-end capability of clinical trial solutions**
  Within the fragmented clinical trial operations, Maven Clinical Cloud offers an ecosystem in which all data management solutions can be found for a true end-to-end solutions operation.
- Point 2. **In-house developed and built solutions**
  JNPMEDI operates a Maven Consulting team, a group of medical professionals that assists with all things client related from onboarding, system building, and customer service. This results in a soft landing and 25-35% faster time to system "go-live."
- Point 3. **Client value-focused pricing scheme**
  JNPMEDI's pricing scheme is a quantitative and data transaction-based rather than qualitative and difficulty-based. This allows a 30-40% reduction is solutions cost experienced by cleints

Additional Information

- ISO 27001 (Information Security Management System) certified
- ISO 27701 (Privacy Inforation Management System) certified
- ISO 27799 (Health Information Management System) certified
- ISO 9001 (Quality Management System) certified
- GDPR compliant
- 21 CFR Part 11 compliant

neurive
support for new life

NEURIVE's effort towards technological advancement continue

Industry
Electroceutical medical device

- **Target Indication**
  Depression, Insomnia, Tinnitus, Dementia
- **Future indicationas**
  variety of degenerative brain disease
- **Technology**
  Non-invasive transauricular Vaguer Nerve Stimulation

Established
Apr. 20. 2018

Headquater
Seoul, South Korea

Intellectual Property

Mainly related to stimulation apparatus for the vagus nerve. Total of 56 patents

- Domestic(Korea) 34
- International 21

Seeking a $3.2m Series A Round

Non-Dilutive Funding to Date

$2M in KHIDI grants

Contact

Name Jae-Jun Song
E-mail jjsong23@gmail.com
Website www.neurive.com

Executive Summary

- **Vision** To achieve global leadership in the field of medical devices and healthcare services that promote mental health and address unmet medical needs.
- Neurive is pre-clinical-stage company taking a targeted approach in the development of electroceutical medical device for the treatment of varietyof degenerative brain disease
- Neurive has developed ASENS (Auricular Sound and Eleectric Nerve Stimulation) technolofy and it can stimulate auricular branch of vagus nerve effectively. By this technology we can increase brain plasticity and brain function.
- We are doing clinical trial for medical device approval from KFDA and planning to do another clinical trial for FDA approval in US.
- **Partnership & Clients** Spaulding rehabilitation hospital (teaching hospital of Harvard medical school) and & Korea University Medical Center

Management 15(47 % medical doctor or engineers)

- **Jae-Jun Song, MD, PhD** Executive Chairman & CEO
- **Hyuk Choi, PhD** Scientific Founder & Chief Scientist
- **Keun Chul Choi** Sales and Marketing

Advisory Team & Board of Directors

- **Dr. Woojin Hwang**
- **Dr. Woosung Hwang**

Technical Milestones Achieved Traction & Achievements

- We have lots of academic paper published in international journals.
- We found that Soricle activates prefrontal cortex and limbic system of human brain which are releated with emotional control and cognitive process.
- **Electroceutical** (Soricle)
  Korea FDA GMP approval, Medical device clinical trial (pilot study) for tinnitus, IND approval for insomnia
- **Consumer electronics** (Healaon)
  KC approval (Korea), CE approval, Clinical trial in Harvard)
- **Digital therapeutics** (Soriclear)
  commercially available in Korea market and clinical trial for KFDA approval.

Neurive Pipeline / Product

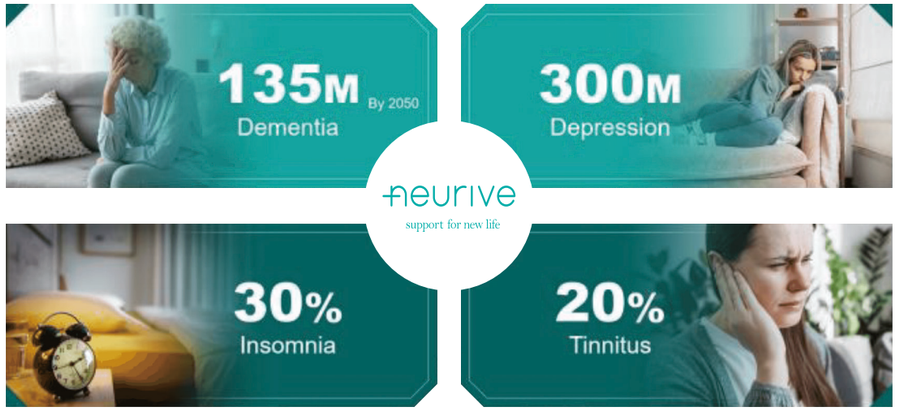
Soricle
ASENS(Non-invasice trans auricular vagus nerve stimulation) technology-Electroceutical device for the treatment of degenerative brain disease

healaon
Consumer electronics based on ASENS technology for wellness and stress relief

SoriCLEAR
Android application digital therapeutics based on cognitive behavioral therapy for the treatment of tinnitus

Type	Candidate	Target indication	R & D	Clinical trial	Approval	Market entrance	Note
Electroceutical	Sorcle-01	Tinnitus	✓	✓			KFDA CGMP
	Sorcle-02	Insomnia	✓				
	Sorcle-03	Depression	✓				
	Sorcle-04	Dementia					
Consumer electronics	Healaon	Stress relief	✓	✓	✓	✓	CE approval
Digital therapeutics	Soriclear	Tinnitus	✓	✓		✓	Korean Market

Market Opportunity/Unmet Need



- Due to the aging process of most ot the industrialized countries, the number of degenerative brain disease patient is increasing rapidly. But, there no definite treatment for that.

Competitive Analysis and Competitive Advantage

- **We have developed ASENS technology that cah activate brain function and brain plasticity by non-invasive vagus nerve stimulation using sound and electricity.**

Competitive Advantage

- **Point 1.** Our technololgy is non-invasive. So, there needs no invasive procedure such as surgery under general anesthesia.
- **Point 2.** Our device is personal wearable device. So, patients can treat themselves at home, whenever, wherever they want.
- **Point 3.** Our product can be applied to various clinical situation. And has wide range of clinical application.

neurophet

Lead neuroradiology, With neuroimaging expert.

AI-based brain image analysis with unique segmentation technology

Industry Medical Device

- **Target Indication**
  Braindisorders
- **Future indicationas**
  neurodegenerative disordersincluding dementia.
- **Technology**
  AI-based imageanalysis

Established Mar. 2016

Headquater Seoul, South Korea

Intellectual Property

- Over 100 patents globally
- Over 60 publications

Non-Dilutive Funding to Date

25million dollars investmentsfundraised from series A and B.

Contact

Name	YoungJoon Moon
E-mail	yjmoon@neurophet.com
Website	www.neurophet.com
Linkedin	https://www.linkedin.com/company/neurophet/

Executive Summary

Neurophet is a company focusing on overcoming brain diseases using deep learning artificialintelligence (AI)-based neuroimage analysis software. Our products help diagnose brain diseasessuch as Alzheimer's disease and stroke by segmentation, measuring the volume of brain regionsand the status of biomarkers related to brain diseases.

Why Neurophet product?

- The core technologies (AI brain segmentation engine) and products are well supported by clinicaltrial, peer-reviewed articles and registered as medical device (products for clinical purpose of use)
- Accuracy supported by clinical trial, better capacity and flexibility compared to competitor products.
- Neurophet has achieved technical/regulatory milestones as planned. (Korea MFDS, USA FDA 510K, Japan PMDA, Singapore HSA cleared)
- Normative data covering East Asian population and additional datasets from the US and Europe

Management 15(47 % medical doctor or engineers)

- **Jake Junkil Been** CEO/Co-founder
- **Dong-hyeon Kim, Ph.D** CTO/Co-founder
- **YoungJoon Moon, Ph.D** CBO

Advisory Team & Board of Directors

- **Prof. Hyun Kook Lim, MD, PhD, Geriatric Psychiatrist** CMO

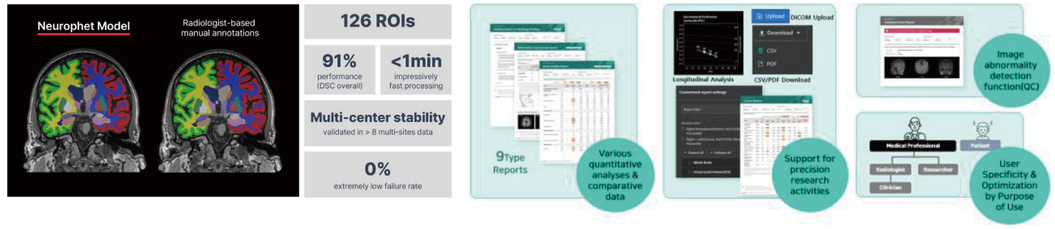
Neurophet Inc. Pipeline / Product

Neurophet AQUA is an AI medical-grade software providing brain MRI analysis for brain atrophy and white matter hyperintensity, which are main imaging indicators of neurodegenerative disorders including dementia,

- T1 MRI region segmentation and volumetry measurement (126 ROI)
- Brain atrophy analysis - Western (US / Europe) and Asian normative DB
- T2-FLAIR MRI white matter hyperintensity analysis
- Longitudinal analysis for tracking changes
- Inter-MRI scanners (16 scanners) / 1.5T & 3T validated
- Designed for neuroradiologists & clinicians including neurologists
- 9 comprehensive & customized report formsExecutive

Brain Segmentation Using Deep Learning Techniques

Brain MRI(T1-w) segmentation of multiple brain regions



Technical Milestones Achieved Traction & Achievements

NEUROPHET holds a total of 108 patents. Specifically, our patents are focused on key pipelines such as brain imaging analysis, modeling technology, and treatment design technology.

- 42 domestic patents (32 registered)
- 66 international patents (9 registered) including US, EU and Japan

Market Opportunity/Unmet Need

Market Opportunity

- Increasing demand for AI in healthcare to reduce rising medical costs.
- Improvement in computing performance and decrease in hardware costs.
- Increase in inter-industry partnerships and collaborations.
- Increasing need for immediate healthcare services due to the imbalance between medicalpersonnel and patient demand.
- Increased interest and intensified market competition in the field of AI in healthcare after theCovid-19 pandemic.
- Increase in research and development activities and technological advancements forutilization in various areas such as diagnosis, prediction and treatment methods, patientmonitoring, and support for medical professionals.

Unmet Need

- **Lack of networking for local market expansion**
  There is a need to identify partner companies with established sales networks forneurology/radiology specialists who have a deep understanding of AI software products.

Competitive Analysis and Competitive Advantage

Product Name/ Manufacturer	Neurophet AQUA Korea	NeuroQuant USA	icobrain Belgium	Neuroreader Denmark
Approval Status	CE - Class IIa, FDA - 1H 2023 Korea (MFDS), Japan(PMDA) & Singapore (HSA)	CE - Class IIa, FDA - 510(k) cleared, Class II Aug-2006	CE - Class , FDA - 510(k) cleared, Class II Jul-2015	CE - Class Iia FDA - 510(k) cleared, Class II Feb-2015
Target Disorder	Dementia incluiding Alzheimer's disease and neurodegenerative disorders	Dementia, Neurodegenerative desorders, TBI, epilepsy	Dementia, MS, TBI, epilepsy	Dementia, MS, epilepsy
Segmentation/ Volumetry method	In-house (Deep-learning) 91% dice overlap compared to ground truth	In house - Freesurfer-based with proprietary	In-house	In-house, atlas-based
Sub-lobar analusis, number of structures	Yes, 126 ROI Atrophy analysis on 34 regions	Yes, 75+ Atrophy analysis on 4 regions	Hippocampus, lobar cortices and ventricles	Yes, 45
Processing Time	<3 mins	5-7 mins	15-20 mins	7-10 mins
Reference Database	~1,600 subjects from East Asian & Additional dataset from US/Europe	~5,000 subjects from private and public datasets, 3-100, Caucasian based only	1,903 subjects from mainly public datasets, 6-96y Caucasian based only	231 subjects from ADNI, 90y, Caucasian based only
Segmentation Error Rate	1.3% 26 / 2,000			

- **Point 1.** Technology to provide accurate analysis of brain MRI image segmentation/volumetry.
- **Point 2.** Short processing time for MRI image analysis (<3 minutes).
- **Point 3.** Normative data covering East Asian population and additional datasets from the US and Europe.

AI Assistant for Youth Mental Health Experts, Dr. Simon

Industry
Digital Healthcare

- **Target Indication**
  Digitql phenotyping to understand patterns and behaviors related to mental health

Established
Sep. 2021

Headquater
Incheon, South Korea

Intellectual Property
Ten IPs including pending patents

Non-Dilutive Funding to Date
$9M from IITP, KEIT, NIA etc, Korea

Seeking a $1m Seed Round
3R Innovation anticipates achievement of the following milestones post financing Stage :
Tested and safe in the real world

Contact
Name Kwangsu Cho, Ph.D.
E-mail kc@focuspang.com
Website focuspang.com

Executive Summary

- Founded in September 2021, we have our roots in the Real-Time Ubiquitous Systems Lab at Seoul National University's Department of Computer Science and Engineering.
- One of our services, ｢focuspang ai 2.0｣, is designed to help schools manage offline classes with the help of digital devices and keep students focused on their learning. With ｢focuspang ai 2.0｣, teachers can seamlessly integrate technology into their lesson plans and monitor their students' attention and focus in real-time.
- Another service is called ｢Dr.Simon｣. It is an innovative mental health service that harnesses the power of cutting-edge technologies to provide personalized care and support. By leveraging digital phenotypes for diagnosis and GPT AI for care and intervention, Dr.Simon offers a revolutionary approach to mental healthcare.
- ｢Dr.Simon｣ has several AI models, one of which is the world's first AI model to diagnose Internet Gaming Disorder with digital phenotypes collected from students' smart devices.
- ｢focuspang ai 2.0｣ provides a service for students that utilizes ｢Dr. Simon｣ to monitor student attention and mental state.

Management
- **Kwangsu Cho, Ph.D.** CEO
- **Chang-Gun Lee, Ph.D,** CEO
- **Seonghyeon Park, M.S.,** CTO

Advisory Team & Board of Directors
- **Jun Soo Kwon, Ph.D. MD,** Seoul National University Hospital
- **Minah Kim, Ph.D. MD,** Seoul National University Hospital
- **ByungTak Zhang, Ph.D.** Director of Artificial Intelligence in Seoul National University

3R Innovation's Pipeline / Product
｢Dr.Simon｣ is an innovative child and adolescent mental health service that uses digital phenotyping for diagnosis and GPT AI for treatment and intervention.

At ｢Dr.Simon｣, we understand that each individual is unique, and mental health conditions require tailored treatment plans. Our digital phenotypes utilize advanced data analytics to understand patterns and behaviors related to mental health. By collecting information from various sensors, ｢Dr.Simon｣ analyzes data to detect early signs of mental health issues as well as learning and performances.

Once the diagnosis is complete, the Ruby-GPT system built into ｢Dr. Simon｣ comes into play. Powered by state-of-the-art language processing algorithms, the system can identify an individual's mental health, as well as their learning and performance. The Ruby-GPT system summarizes an individual student's or patient's digital phenotype, guides professionals, and provides real-time feedback for personalized interventions where permitted.

Technical Milestones Achieved Traction & Achievements
A digital phenotype-based artificial intelligence model for predicting Internet Gaming Disorder was successfully developed in a quasi-field experiment setting, with an accuracy rate of 95%

On May 8, we launched the Dr. Simon pilot for three weeks. We received an excellent response from about 950 mothers who received detailed, personalized reports on their children's impulsivity, learning attitudes, conceptual understanding, and academic performance during this period.

In the fall of 2023, this model will be tested in real-world, everyday environments in which young people are learning at school, playing games in the metaverse, or simply relaxing at home.

Market Opportunity/Unmet Need
- One in five young people suffers from a mental illness. Major child and adolescent mental illnesses include internet gaming disorder, ADHD, and depression. But only 10-30% are diagnosed.
- The demand for psychiatric care for adolescents is exploding in the post-COVID-19 era, but the supply of mental health care for adolescents is facing a severe shortage.
- This is mainly because the patient-to-professional ratio is very low, and also because mental health care practice is limited to one-on-one professional-client encounters and labor-based.
- Despite the fact that most adolescents do not receive psychiatric care, mental care is a huge mega-market that is expected to reach $538 billion by 2030, so the market for mental care is only going to get bigger and bigger.
- Therefore, professionals need industrial methods to retain clients and increase treatment effectiveness through ongoing care rather than one-time counseling.

Competitive Analysis and Competitive Advantage
- **Point 1. Continuous, Non-invasive Diagnosis**
  Through the use of digital phenotyping artificial intelligence, continuous diagnostic monitoring is possible without having to visit a hospital.
- **Point 2. Customer Retention**
  Dr. Simon's continuous monitoring may convert a one-time consultation into continuous counseling arrangement.
- **Point 3. Revenue Enhancement**
  Dr. Simon can help improve mental health and learning performance together which is not covered in traditional mental health treatment.

SMARTOOTH

Smartooth is a dentalcare solution company which makes the detecting device that measures the tooth status and let user know the numerical value depending on the decay level andhelp to monitor the measured data to follow up the status through mobile application.

Industry
Medical Device/Diagnostics/
Degital Health

- **Target Indication**
  Dental caries
- **Future indicationas**
  Most of dental diseases including periodontitis
- **Technology**
  Laser Fluorescence

Established
Jan. 2019

Headquater
Seoul, South Korea

Intellectual Property
Several issued and pending patents on the device and the key technologies in Korea and other countries.

Non-Dilutive Funding to Date
$0.75M in KODIT & KUH grants

Contact
Name Clara Yoon
E-mail s.yoon@smartooth.co
Website http://smartooth.co
Linkedin s-clara-yoon

Executive Summary

- Smartooth is a dentalcare solution company which makes the detecting device that measures the tooth status and let user know the numerical value depending on the decay level and help to monitor the measured data to follow up the status through mobile application
- To date, X-ray used to diagnose tooth decaies rely on the subjective judgment by dentists, but Smartooth device can enable the objective and scientific detection by providing quantified value according to the decay status
- It can be used as an alternative/auxiliary device for X-rays because it works more intuitively than x-rays but has similar accuracy
- In addition, it is also suitable for non-face-to-face treatment in that anyone can measure hygienically anywhere and share with other people, by using disposable probes
- Based on the main technology, Smartooth plan to expand the scope of dentalhealth status diagnosis from the decay to various oral diseases including periodontitis

Management

- **Hojung Vivian Son** CEO
- **Myungseon Ryou** Executive Vice President & CTO

Advisory Team & Board of Directors

- **Eric Park** CMO

Smartooth Product

- Smartooth dental monitoring device is a next-generation dentalcare device that provides unprecedented data accuracy in dentis- and home-use dental health monitoring service using the optical sensor
- The core techniques of Smartooth dental monitoring device includes the ‘Fluorescence Spectroscopy’ which is a smart technological application measuring the level of fluorescence of teeth
- When wavelengths of light (655mm) emit onto teeth with decay, light materials are exposed, signaling the Smartooth dental monitoring device that tooth decay present
- Through the sensitive light sensors using the fluorescence spectroscopy, Smartooth dental monitoring device can pick up cavities in all the hard-to-see areas of your mouth from your molars to the nooks and crannies between each tooth
- Further, it analyzes data measured differently according to the oral conditions depending on the degree of decay and plaque and allow user to visit the dentist on the appropriate time if necessary, based on the trend of measured data

Technical Milestones Achieved Traction & Achievements

- Research and development of the device has been completed and mass production is underway for sale
- Smartooth will officially sell the dental monitoring device as the medical devices to worldwide dental hospitals and dentists after completing medical device certification through Korea and the FDA in September
- Following Korea and the United States, Smartooth prepare to receive medical device certification in each country, including CE MDR
- As soon as the medical device certification is completed, we will apply for a new health technology assessment by NECA, so we are preparing to examine whether it is eligible for medical care benefits as a prior work

Market Opportunity/Unmet Need

- No dental device to assist in the diagnosis of tooth decay by providing information on the status of dental caries in quantified form
- Typically the diagnosis of dental caries depends on gross examination and x-ray reading, and thus it has limitation that the criteria can be subjective
- No currently used dental healthcare device for home-use and non face-to-face treatment
- Difficult to know the exact condition in the medical examination conducted in kindergarten and school, or at home, hence people must go to the dentist clinic to get an accurate examination of the condition of the cavity through X-ray
- Smartooth dental monitoring device can solve these all problems by showing the numerical value about caries and measuring by anyone everywhere intuitively
- To provide the objective diagnostic criteria about dental caries status is attractive in that it can help to decide when to treat for dentist, and it leads to accept it without doubts for patients

Competitive Analysis and Competitive Advantage

Competitive Analysis

- Point 1. **Numerical data depending on the decay degree**
  Smartooth dental monitoring device offers the numerical value of measured tooth status and the monitoring graph for each tooth over the period. User can detect the accurate status of tooth with numerical value using the device, and follow up and monitor the data using the app, allowing user identify their status without any professional knowledges.
- Point 2. **Non face-to-face treatment/Home-use device**
  Considering it is hard to notice the existence of decay in early stage because there is no pain unless it decayed until the nerves, it is innovative if we can identify the decay in early stage invisible from the naked eye. SmarTooth detects the early stage decay and let user to visit a dentist before it changed to be worse with the monitoring graph.
- Point 3. **Disposable probe**
  User can measure their tooth status without any hygiene issues by replacing the probe instead of sterilizing it with disinfection equipment using at dental office and also can share device with family members

Additional Information

- Won two Innovation Awards at CES2023 (Digital health/Software & Mobile Apps)
- Signed a contract of more than $100,000 with US company and secured more than 10,000 domestic and international LOI

Transforming drug development process using SPATIAL TRANSCRIPTOMICS

Industry
Biotech/Bioinformatics

- **Target Indication**
  Solid cancers
- **Future indicationas**
  Neurodegenerative disorders
- **Technology**
  Spatial transcriptomics, Radioligand, Antibody-drug conjugate

Established
Jul. 2021

Headquater
Seoul, South Korea

Intellectual Property
- Several issued patents covering methods of analysis through 2043 (3 S.Korea patents, 3 PCT patents)
- Pending patents for spatial transcriptomics analytics
- Plan to apply a patent for PORCBX-0011 in 2023: Pan-solid cancer targeting radioligand theranostics

Non-Dilutive Funding to Date
- Total $1.7M in 5 Korea Government Grants
- $50K in Quickfire Challenge supported by Johnson&Johnson

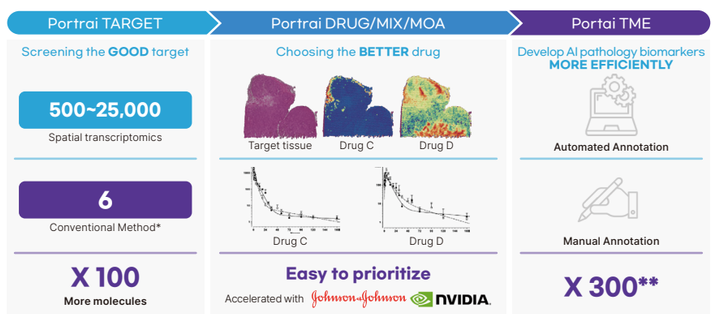
Contact
Name Daeseung Lee
E-mail contact@potrai.io
Website www.portrai.io
Linkedin www.linkedin.com/in/dsleemdmba/

Executive Summary
- Portrai revolutionizes drug development processes by combining AI and spatial transcriptomics(ST) for higher precision and effectiveness.
- By analyzing the spatial contexts of all molecules within a tissue, we can clearly determine the most promising targets, the drugs with superior microscopic distribution, those that excel in terms of their mode of action, and the most suitable biomarkers for new drugs.
- Portrai is gathering data on several solid cancers, including lung, colon, liver, breast, kidney, and Head & Neck. This data includes spatial transcriptomics and the clinical histories of about 100 patients for each cancer type.
- We form strategic partnerships with biotech and pharmaceutical firms, sharing our technology for their research and development. This collaboration includes working together to create new drugs and discover targets, aligning our expertise with their innovation needs.
- Alongside this, we offer custom analytics services designed for our clients' individual needs.

Management
- **Daeseung Lee, MD, MBA, Co-founder,** CEO
- **Hongyoon Choi, MD, PhD, Co-founder,** CTO
  Pf. of Seoul National University (Nuclear medicine)
  MIT technology review under 35 innovators (Korea region)
- **Hyung-Jun Im, MD, PhD, Co-founder,** CSO
  Pf. of Seoul National University (Theranostics)
  a young member of the Korean academy of science and technology
- **Kwonjoong Peter Na, MD, PhD cand, Co-founder,** CMO
  Pf. of Seoul National University Hospital (Thoracic surgery)

Scientific Advisory Board
- **Pf. Weibo Cai,** University of Wisconsin-Madison(Clinical and Translational Research)
- **Pf. Hosub Park,** Hanyang University (Pathology)

Portrai Pipeline / Product



*Multiplex Immunohistochemistry

In 2 hour **
Pathologist : 1 slide, 1 structure
Portrai TME : 30 slide, 10 structures

- PortraiTARGET precisely identifies drug targets using structured ST datasets.
- PortraiDRUG/MOA/MIX are platforms that analyze drug distribution and mode of action, revealing unanticipated effects and guiding optimization in the drug development process.
- PortraiTME uses AI to develop companion diagnostics from H&E images, providing a cost-effective and accurate method to enhance clinical trial success and personalized medicine.

Technical Milestones Achieved (Traction & Achievements)
- Portrai has established a global collaboration network that includes institutions in the US (such as MGH, Vizgen, University of Texas), the UK (Queens University Belfast), and Switzerland (University of Basel).
- We have developed core technologies for integrative analysis, including topological analysis, registration methods, cell sorting, superresolution, and more. (For reference, see: https://portrai.io/tag/journal_articles/)
- PORCBX-0011, the first drug pipeline of Portrai, is a peptide-based theranostic radioligand agent targeting molecules in cancer-associated fibroblasts, and hit generation is currently in progress.
- Both barcode-based (Visium) and image-based (MERSCOPE, Xenium) technologies are offered with significant expertise.

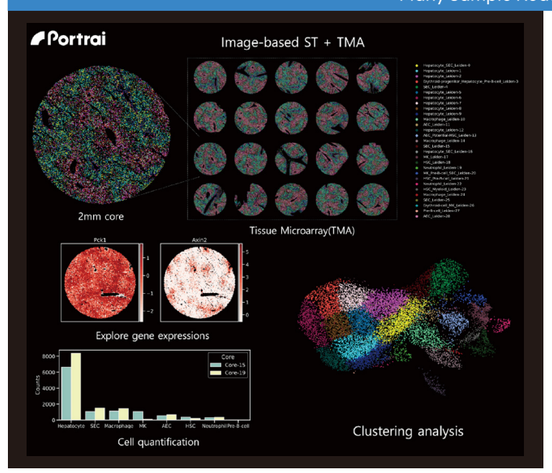
Market Opportunity/Unmet Need
- **Unraveling Complex Diseases in the tissue level**
  Spatial transcriptomics provides a detailed view of gene expression within the cellular microenvironment, enabling researchers to better understand the complex interplay of cells in the tissue. This helps in uncovering new targets and developing more effective therapies especially In solid cancers and neurological diseases
- **Personalized Treatment Plans**
  The ability to visualize gene expression within tissue structures allows for more personalized treatment plans. By identifying patient-specific gene expression patterns, spatial transcriptomics can assist in tailoring therapies that are most likely to be effective for individual patients.

Competitive Analysis and Competitive Advantage

Competitive Analysis
- Single Cell RNA Sequencing excels in studying gene expression at the cellular level, ideal for identifying cellular heterogeneity and rare cell types, but lacks the spatial information that spatial transcriptomics provides, thus limiting its application in diseases where tissue structure and organization play a significant role.
- In contrast, Spatial Transcriptomics offers the unique ability to visualize gene expression within a tissue context, making it invaluable for understanding spatial patterns and co-expression, especially in diseases like cancer, and neurological disorders where spatial organization is critical.

Competitive Advantage
- Point 1. **Domain Expertise**
  Portrai's team consists of industry-leading experts in bioinformatics, genomics, and drug development.
- Point 2. **Innovative Technology**
  Portrai's cutting-edge spatial transcriptomics and artificial intelligence technologies offer advanced capabilities that few other companies can match.
- Point 3. **Customized Solutions**
  Portrai has a proven track record of developing bespoke solutions tailored to the specific needs of its collaborators and clients. This adaptability likely aligns well with diverse research projects and clinical trials.

Many sample Reasonable cost



Current collaborators
UTEP
MASSACHUSETTS GENERAL HOSPITAL
QUEEN'S UNIVERSITY BELFAST
Universität Basel

Additional Information
- Johnson & Johnson and NVIDIA are accelerating our efforts to merge market needs with AI technology.
- Our revenue stream is growing: $30K in 2021, $130K in 2022, and an estimated $1M in 2023.

Liquid Handling Robot
designed for precision and efficiency

Industry
Robotics, Lab automation

- **Target Indication**
  ABLE Labs focuses on democratizing automation for bio-laboratories in universities and research institutes.
- **Future indicationas**
  ABLE Labs plans to expand product offerings, integrate with specialized research equipment, and venture into emerging global markets.
- **Technology**
  ABLE Labs combines advanced "Notable" hardware with industry-leading cloud-based software for unparalleled bio-lab automation.

Established
Feb. 2021

Headquater
Incheon, South Korea

Intellectual Property
- Two domestic patents for liquid handling and lab automation technology
- Two international patents(PCT) pending for liquid handling and lab automation technology
- Three domestic trademarks

Non-Dilutive Funding to Date
Acquired a cumulative investment of 3.5M USD

Contact
Name Sang Shin
E-mail s.shin@ablelabsinc.com
Website ablelabsinc.com
Linkedin www.linkedin.com/in/piashin

Executive Summary

Headquarters	South Korea
Primary Mission	Revolutionize the bio-research domain with cutting-edge automation solutions.
Flagship Product	Notable - A Liquid Handling Robot designed for precision and efficiency.
Software Edge	• Proprietary cloud-based software platform. • User-friendly interface tailored for researchers. • Allows for remote access and control of experiments, enhancing flexibility and workflow.
Market Position	• Aimed at democratizing automation in bio-labs. • Focused on making state-of-the-art technology accessible to labs of all scales. • Affordability without compromising on quality.
Key Value Propositions	• Reliability backed by rigorous testing and user feedback. • Seamless integration between hardware and software for an intuitive user experience.

Management

Executive Leadership	**Sang Shin CEO**, co-founder 12-years experience in lab automation, former Head of bio-automation team at ATI, a semiconductor inspection equipment company
Software Edge	**Namil Ko PO**, co-founder 11-years experience in designing automation robots **Director of Hardware Development** 10-years experience in developing automaton robots
Software & Technology	**Sangyoung Park** Head of Software Development 7-years experience in automating biological process
Quality & Compliance	**Director of QM** Quality Management 20-years expeience in quality managent at medical device and pharmaceutical company

Advisory Team & Board of Directors

Keith Ryu Advisory
Founder/Former CEO of Fountain(Backed by $221M from Softbank, Y Combinator, etc.)

Market Opportunity/Unmet Need

Unmet Need
- **Reliance on Manual Labor** 90% of biology experiments still rely on manual methods.
- **Reproducibility Issue** About 88% of researchers are unable to reproduce the findings of other scientists.
- **Safety Concerns** 51% of safety incidents in laboratories are caused by human errors.
- **Economic Barrier** 89% of domestic biology labs cannot afford existing lab.automation robots due to high costs. ABLE Labs offers a solution at a lower price point, starting at USD 25K, significantly expanding potential sales targets.

Market Opportunity
- **Liquid Handling Market** Based on market research, the liquid handler market is expected to grow from approximately 4.3 trillion won in 2021 to around 6.4 trillion won by 2027. Notably, the Asia Pacific region is predicted to experience the steepest growth, presenting an advantage for ABLE Labs.
- **Lab Automation Market** According to SLAS 2022, the current keyword in lab automation is "inter-device connectivity". In Korea, there is a noticeable absence of key players in this field. ABLE Labs has an advantage as they have established collaborative relationships with key players in various segments of laboratory automation, encompassing robotics and scheduling software.

ABLE Labs Product

Notable - Liquid Handling Robot

Purpose	Designed to automate and streamline processes in bio-laboratories, making precision liquid handling tasks simpler and more efficient.
Features	• High precision liquid dispensing. • User-friendly interface for easier operation. • Integration with ABLE Labs' proprietary cloud-based software for remote access and management.
Benefits	• Democratizes automation in bio-labs, making state-of-the-art technology accessible and affordable. • Minimizes human error, ensuring reliable and consistent results. • Flexible and scalable to meet the diverse needs of labs of all sizes.

Cloud-based Software Platform

Purpose	Provides a seamless, user-friendly interface for researchers and facilitates remote access to experiments and data.
Features	• Intuitive dashboard for easy navigation. • Real-time monitoring and data analysis. • Secure cloud storage for experiment data and results.User-friendly interface for easier operation.
Benefits	• Simplifies complex processes, allowing researchers to focus on their core tasks. • Enhances flexibility with remote experiment management. • Ensures data security and accessibility.

Technical Milestones Achieved Traction & Achievements

Key Partnerships
- Samsung Biologics, the largest CDMO in South Korea, implemented ABLE Labs' liquid handling robot, NOTABLE, for protein purification.
- The Korea Research Institute of Bioscience and Biotechnology adopted the ODM robot from ABLE Labs, for E-coli based automatic DNA Transformation.

Business Highlights
- Founded in 2021 with a sales contracts approximately $500K.
- Partnered with 10 key customers, deploying 14 robots.
- Developed ODM products that reflect the latest trends in the bio-industry, such as an organoid dispenser and antibiotic susceptibility testing equipment.
- Managing around 120 domestic sales and marketing leads as of now.
- At SLAS 2023, engaged with over 200 potential partners and clients, securing 7 NDAs across lab automation, international CS, and ODM/OEM domains.
- Acquired a cumulative investment of 3.5M USD

Product Milestones
- Gathered feedback from 178 VoC (Voice of Customer) respondents, which led to two major hardware improvements and three software updates post-MVP introduction.
- Presented the SUITABLE prototype at SLAS 2023, highlighting its superior scalability and proficiency in high-throughput screening
- Received [In Vitro Diagnostics Manufacturing License] by the government.
- Launched an Analytics Feature for NOTABLE's latest software to proactively detect user activities in real time.

Competitive Analysis and Competitive Advantage

Competitive Analysis
- **1st Gen lab automation companies** Targeted global big pharma and biotech
- **2nd Gen lab automation companies** Focused on specialized features like NGS
- **3rd Gen lab automation companies** Prioritized low-cost, simple features

Competitive Advantage
- **Point 1.** ABLE Labs has expertise and resources to cater to two distinct market needs
  1. The demand for low cost, yet high complexity (like 3rd gen competitors)
  2. The demand for quality, but low complexity (like 1st gen competitors)
- **Point 2.** The three founders of ABLE Labs each have different expertise; biology, robotics and software. The combination of these skill sets serves as a significant barrier to entry in the domestic market.
- **Point 3.** ABLE Labs is the first lab automation startup in South Korea. Having already established traction with major entities like SAMSUNG Biologics, national labs such as KRIBB, and various local biotechs, it sends a powerful signal to the market.

all ways INCHEON

Global Business Frontier

IFEZ, leading innovative growth with solid industrial ecosystems

ifez Incheon Free Economic Zone

INNOVATIVE GROWING CITY

Accelerating Innovation in Asia Pacific

JLABS @ Shanghai

Johnson & Johnson Innovation – JLABS (JLABS) is a global life science network for innovation, providing startups with access to capital-efficient lab space and resources. We offer wrap around services to give small companies big company benefits, including:

- Infrastructure & capital equipment
- Access to expertise & resources
- Funding & investor connections
- Programming
- Visibility
- Global network

JLABS @ Shanghai

Opened on June 27, 2019 in collaboration with the Shanghai Municipal Government, Pudong New Area Government, and Shanghai Pharma Engine Company, Ltd., JLABS @ Shanghai is the first Johnson & Johnson Innovation – JLABS location established in Asia Pacific to serve the greater Asia Pacific region.

The state-of-the-art 4,400-square-meter facility can accommodate more than 50 life science and healthcare startups—entrepreneurs, innovators and larger companies—focused on innovation across the healthcare spectrum, including pharmaceuticals, medical devices, consumer and health tech.

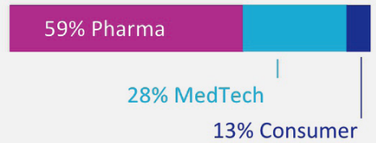
JLABS @ Shanghai | No.1 South building, JinChuang Mansion No.4560 Jinke Road
Zhangjiang Hi-Tech Park, Pudong District
Shanghai, CN | +86 6129 5800 | jlabs@its.jnj.com

JLABS @ Shanghai is the first JLABS location in Asia Pacific region and as well as the largest JLABS network globally.

JLABS @ Shanghai by the Numbers*

81

Collaborating companies
(current & alumni)



$ 5.0B

Financing & strategic relationships
(secured & contingent)

35%

Female-led companies

*Information as of 31 May 2023

Johnson & Johnson INNOVATION | JLABS

Shinhan S² BRIDGE INCHEON

I·SEOUL·U

biohub

Support startups with all-stage foster programs and dedicated funds

Provide substantiation and open innovation by creating clusters of innovation

Support forming dedicated funds and investments linkage

Support expansion of global contents and networking

Offering free space including office and studio

Incubation Membership (Build-up)

We provide startups at the build-up stage with tailored care and education programs based on growth level (demonstration support, consulting, and business support funds) to strengthen their business capabilities.

Accelerating Membership (Scale-up)

We provide startups at the scale-up stage with accelerating programs and the investment examination and links of startup-only funds to help their advanced growth.

Global Membership (Global Expansion)

Support for global partnerships such as startups' entry into domestic and overseas target markets, investment attraction, overseas expansion of domestic startups (outbound), and domestic expansion of overseas startups (inbound).

Shinhan Financial Group Shinhan Financial Group Hope Foundation

the hub of Seoul's bio industry

SEOUL BIOHUB

The value of innovation created by bio start-ups will be nurtured by Seoul Biohub.

SEOUL METROPOLITAN GOVERNMENT

KIST Korea Institute of Science and Technology

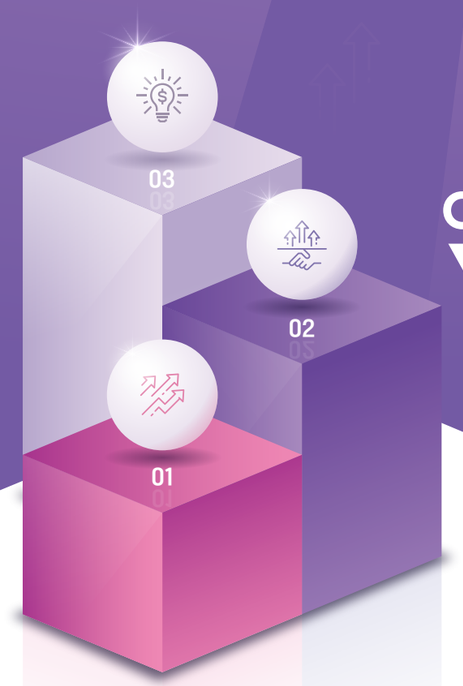
Must Accelerator

MORE **UNICORN STARTUPS** IN TECH

GLOW
Must. IR
IR Opportunities

CONNECT
Must. Connect
Global Open Innovation

GROW
Must. AC
Cross-Border Acceleration



01

We Support the **Growth of Startups**

Cross-Border Acceleration

We support early startups for the rapid growth through the systematic fostering.

02

We Connect **All Networks for Startups**

Global Open Innovation

We explore global business development opportunities through cooperation with global companies and investors.

03

We Provide **IR Opportunities with Startups to Glow**

IR Opportunities

We provide startup companies with funding opportunities for the next rounds.

WE Must GROW UP

WE
Must
GLOW

Must Accelerator

TEL +82-32-228-1700 **E-MAIL** info@must.ac **WEB** www.must.ac/must
ADDRESS 204, Convensia-daero, Yeonsu-gu, Incheon, Republic of Korea