



Introduction for 3rd phase BioCore Facility program



Bio Core Facility program

Goal	Using IPK start-up supporting platform, it provides start-up with global competitiveness
Program period	2017.6 ~ 2024.6(7-year)
Organization	IPK and 5 start up(participants)
Funding	Amount : 10.5billion Won, -1.5billionWon (2million supporting for each company)
PI	Youngmee Jee, M.D, Ph.D(IPK CEO)
Supporting program	<ul style="list-style-type: none">- Providing laboratory and office- Using for common research equipment- Education, mentoring and consulting for value up technology- Development for commercialization strategy

2017

IPK was selected to startup incubation institute
“Bio Core Facility program”

2018~2020

2nd Phase incubating
-Strategy for start up growth and value up
-Using IPK infra-structure, strengthen to their technology
-Providing education, mentoring and consulting
-Set up the GMP facility in Bun-dang SNU hospital by Cellatoz

2020.10

Selection for 3rd Phase new startup
-CTCELLS, CellenGene, CELLAPEUTICS Bio, iPSBIO, AegisBio

Managing strategy

“Setting up the startup supporting program”

Steering committee

- Selection evaluation
- Startup growth strategy and planning
- Management performance
- Using IPK connection, set up network

Education and mentoring

- Supporting for education and mentoring on specialist meeting, HR, accounting education



Equipment and facility

- Assignment for staff only managing equipment
- Setting up easy accessing system to use various equipment and facility

Professional and specialist

- Global network and chance to international scientist
- Patent attorney, Venture capitalist and Business development specialist

IPK startup infrastructure

The best research environment

Spin off and IPO experienced

The cutting edge technology for HTS, HCS

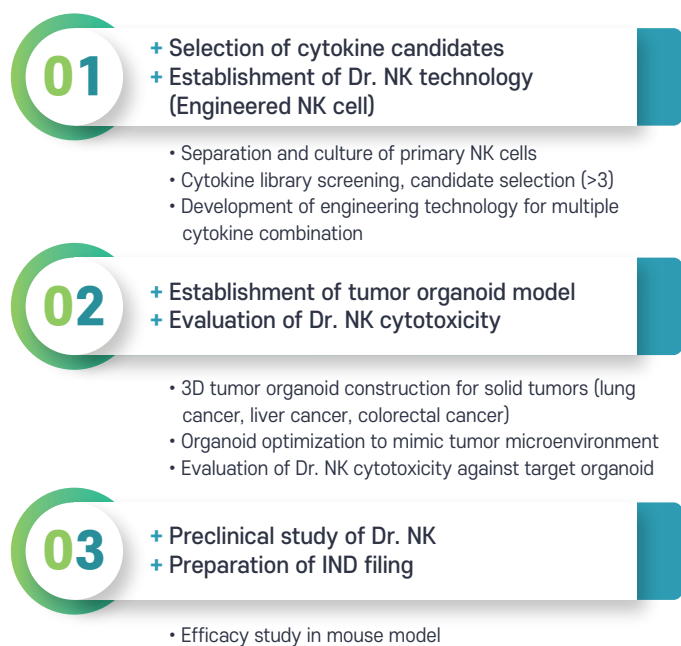
Performance (2018 ~ 2020)

- Technology transfer : 2, Upfront: 700million won, Patent (filing: 9, registration: 6)
- Investment : 100.8 billion won, New hiring: 141

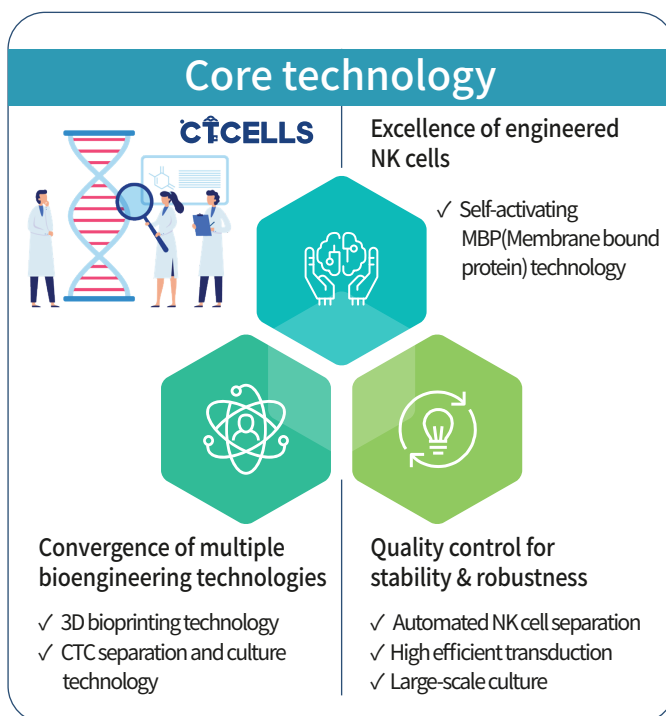
Overview

Company(Foundation date)	CTCELLS (2018.4.4.)	Business Areas	Cancer therapy
CEO	Minseok Kim Ph.D	No. of employees	12 (5 Ph.D)
address	3rd Floor, Institut Pasteur Korea 16, Daewangpangyo-ro 712beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea	Homepage/ Tel	www.ctcells.com 070-4422-2909

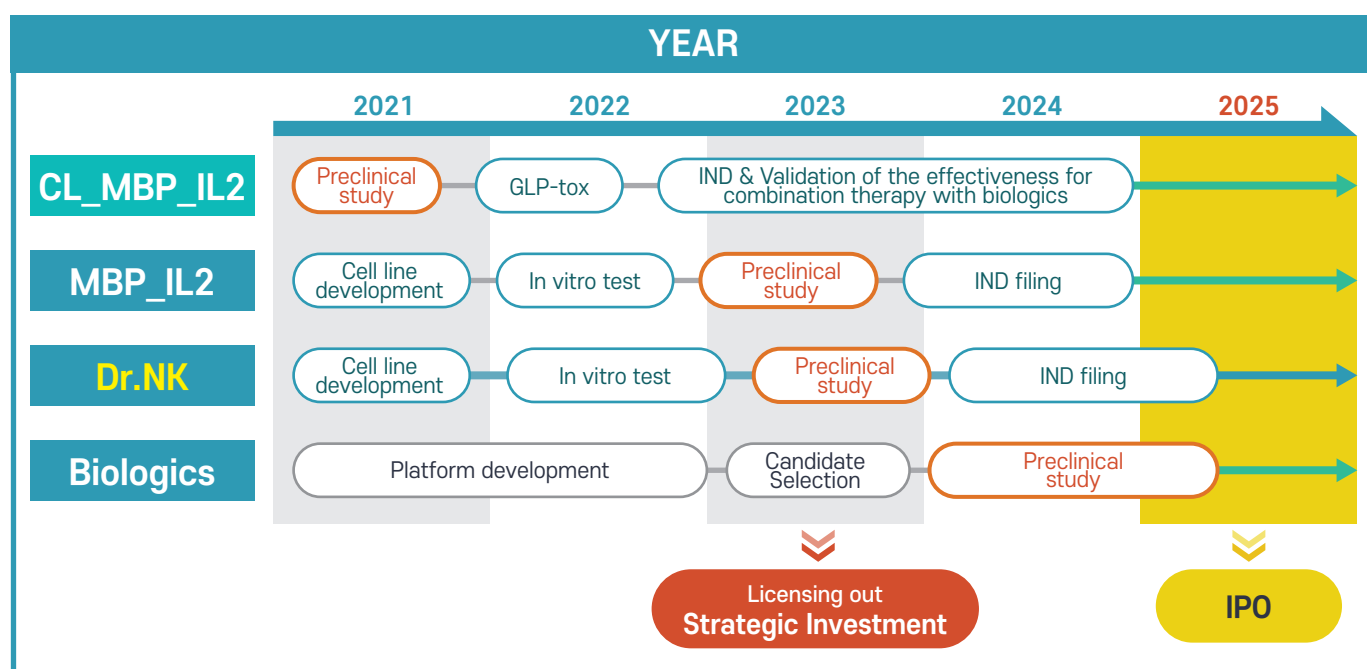
R&D strategy



Core technology



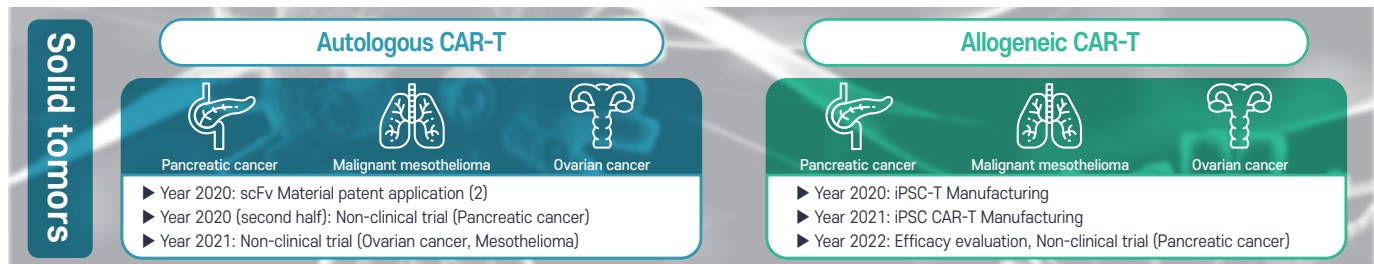
Plan for commercialization



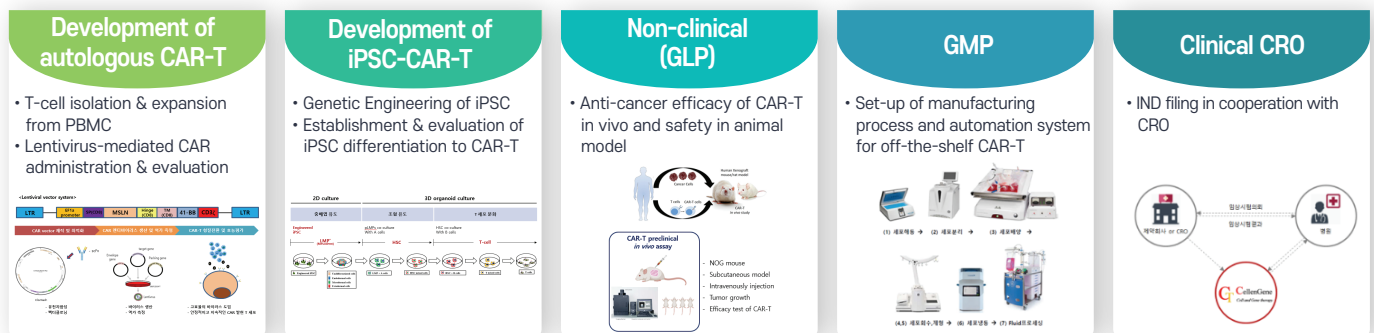
Overview

Company(Foundation date)	Cellengene Inc. (19th June 2019)	Business Areas	Cell and gene therapy
CEO	Jae Hyung An Ph.D	No. of employees	12 (including 6 Ph.D)
address	3rd Floor, Institut Pasteur Korea 16, Daewangpangyo-ro 712beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea	Homepage/ Tel	www.cellengene.com 031-701-0093

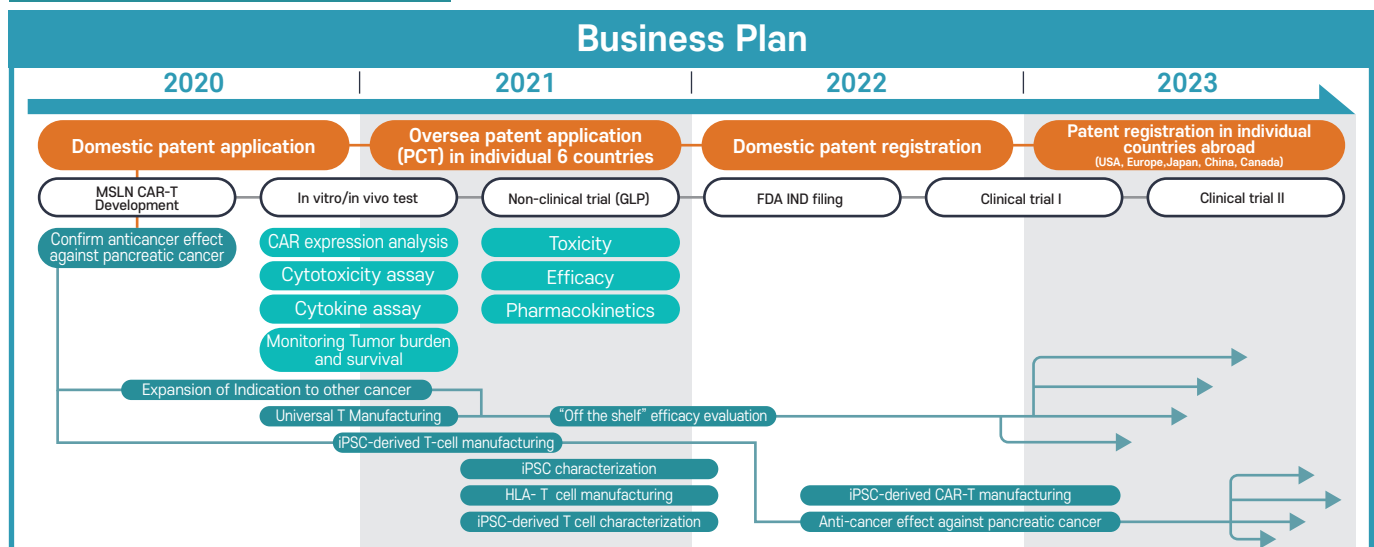
R&D strategy



Core technology



Plan for commercialization

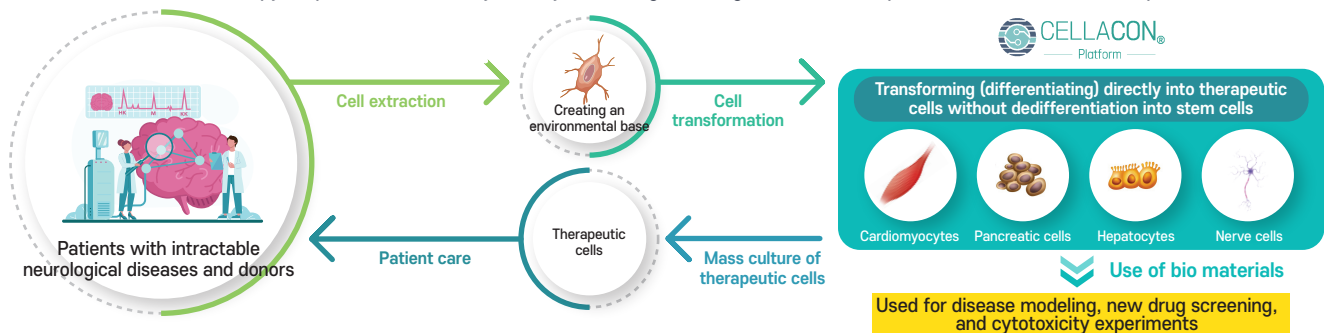


Overview

Company(Foundation date)	CELLAPEUTICS BIO (2020.03.18)	Business Areas	New drug development--cell therapies
CEO	Kim, Kyeong Kyu Ph.D	No. of employees	11 (four Ph.D)
address	3rd Floor, Institut Pasteur Korea 16, Daewangpangyo-ro 712beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea	Homepage/ Tel	www.cellapeuticsbio.com 031-8017-7878

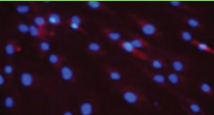

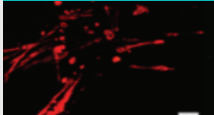
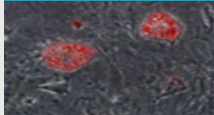
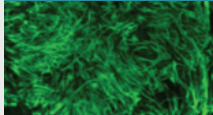
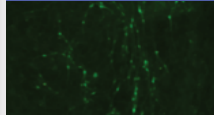
R&D strategy

CELLAPEUTICS BIO's innovative development and treatment strategy in cell therapy
Used as a cell therapy for patient treatment by directly converting/culturing somatic cells of patients and donors into therapeutic cells



Core technology

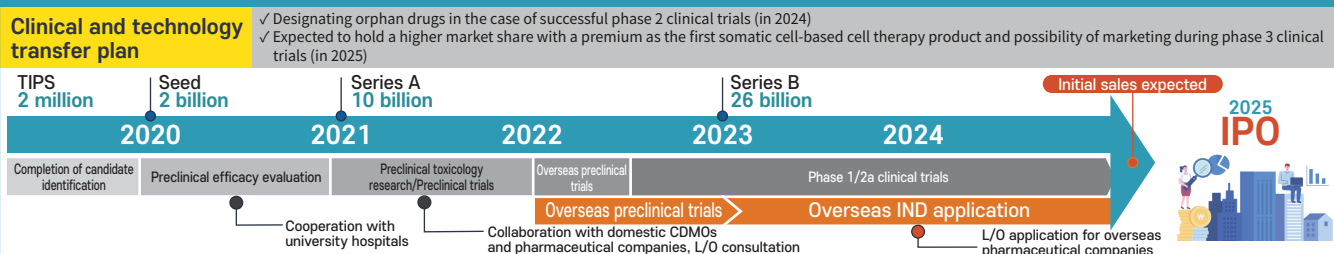
CELLACON Status of Development using "CELLACON Platform"

Adult stem cells	Fibroblasts	Astrocytes			
Pancreatic cells	Myocytes	Cardiomyocytes	Brown fat	Nerve cells	Glial cells
					
Pancreas-related diseases such as Type 1/Type 2 diabetes, pancreatic cancer, etc.	Muscle damage diseases such as muscle loss caused by traffic accidents, etc.	Myocardial damage diseases such as myocardial infarction, endocarditis, etc.	Metabolic diseases such as diabetes, obesity, etc.	Central/peripheral nervous system diseases such as Parkinson's disease, emmentiaet.	Nerve injury diseases such as Parkinson's disease, spinal cord injury, etc.
Patent	Patent	Patent	Patent	Patent	Patent
KR10-2019-0050*** KR10-2020-0063***	KR102082***	KR10-1669*** KR101669***	KR 10-2019-0053***	PCT/KR2018/002*** KR10-2017-0027***	PCT/KR2019/000*** PCT/KR2020/006*** KR10-2019-0073*** PCT/KR2020/008***
Publication	Publication	Publication	Publication	Publication	Publication
Improved differentiation of human adipose stem cells to insulin-producing β -like cells using PDGFR kinase inhibitor Tyrphostin9. BBRC	Chemical induced conversion of mouse fibroblasts and human adipose-derived stem cells into skeletal muscle-like cells. Biomaterials	Discovery of natural compounds promoting cardiomyocyte differentiation. Stem Cells Dev	In situ conversion of fibroblast to brown adipocytes reduces the metabolic syndrome. (in preparation)	Combining suppression of stemness with lineage specific induction leads to conversion of pluripotent cells into functional neurons. Chemical Biology	Chemical based conversion of fibroblast to the glia-like cells for the treatment central and peripheral nerve damage. (in preparation)

Key publication : Small molecule-induced cellular conversion. **Chemical Society Rev (IF=40.443)**

Plan for commercialization

Commercialization Plan



Vision : Stem cell solutions to cure intractable diseases (e.g., Huntington's disease and stroke) using HLA-homozygous, clinical-grade iPS cells

Goal : New high-content screening (HCS) drug screening platforms for neurodegenerative diseases (e.g., Alzheimer's and Huntington's diseases) using patient-derived iPS cells

Overview

Company(Foundation date)	IPS Bio, Inc. (Founded August 1, 2019)	Business Areas	Stem cell therapy and drug discovery
CEO	Jihwan Song, Ph.d	No. of employees	7 (3 Ph.D.)
address	3rd Floor, Institut Pasteur Korea 16, Daewangpangyo-ro 712beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea	Homepage/ Tel	www.ipsbio.com 031-707-6733

R&D strategy

New drug screening with patient-specific iPSC lines

More than 50 different types of patient-derived iPSC lines have been established, and we plan to utilize these cell lines for disease modeling, and high-content drug screening and efficacy tests

Main reasons for failures in drug discovery

Drug	Target	Phase	Status
HD	Anti-amyloid antibody	Phase 1	Failed
HD	Anti-amyloid antibody	Phase 2	Failed
HD	Anti-amyloid antibody	Phase 3	Failed
HD	Anti-amyloid antibody	Phase 4	Failed
HD	Anti-amyloid antibody	Phase 5	Failed
HD	Anti-amyloid antibody	Phase 6	Failed
HD	Anti-amyloid antibody	Phase 7	Failed
HD	Anti-amyloid antibody	Phase 8	Failed
HD	Anti-amyloid antibody	Phase 9	Failed
HD	Anti-amyloid antibody	Phase 10	Failed

Limitations of animal models

Transgenic mouse models overexpressing AD-related genes (APP, PS1, PS2, etc.)

Gene	Strain	Age	Sex	Weight	Length	Width	Height	Volume	Area	Perimeter	Surface	Volume	Area	Perimeter	Surface
APP	APP	12	Male	25	10	5	15	100	100	100	100	100	100	100	100
PS1	PS1	12	Male	25	10	5	15	100	100	100	100	100	100	100	100
PS2	PS2	12	Male	25	10	5	15	100	100	100	100	100	100	100	100



Limitation of in vivo disease models(artificial)

Benefits of patient-derived iPSCs



Core technology

Core technology

01

"Off-the-shelf" HLA-homozygous, allogeneic iPSC development of stem cell therapy

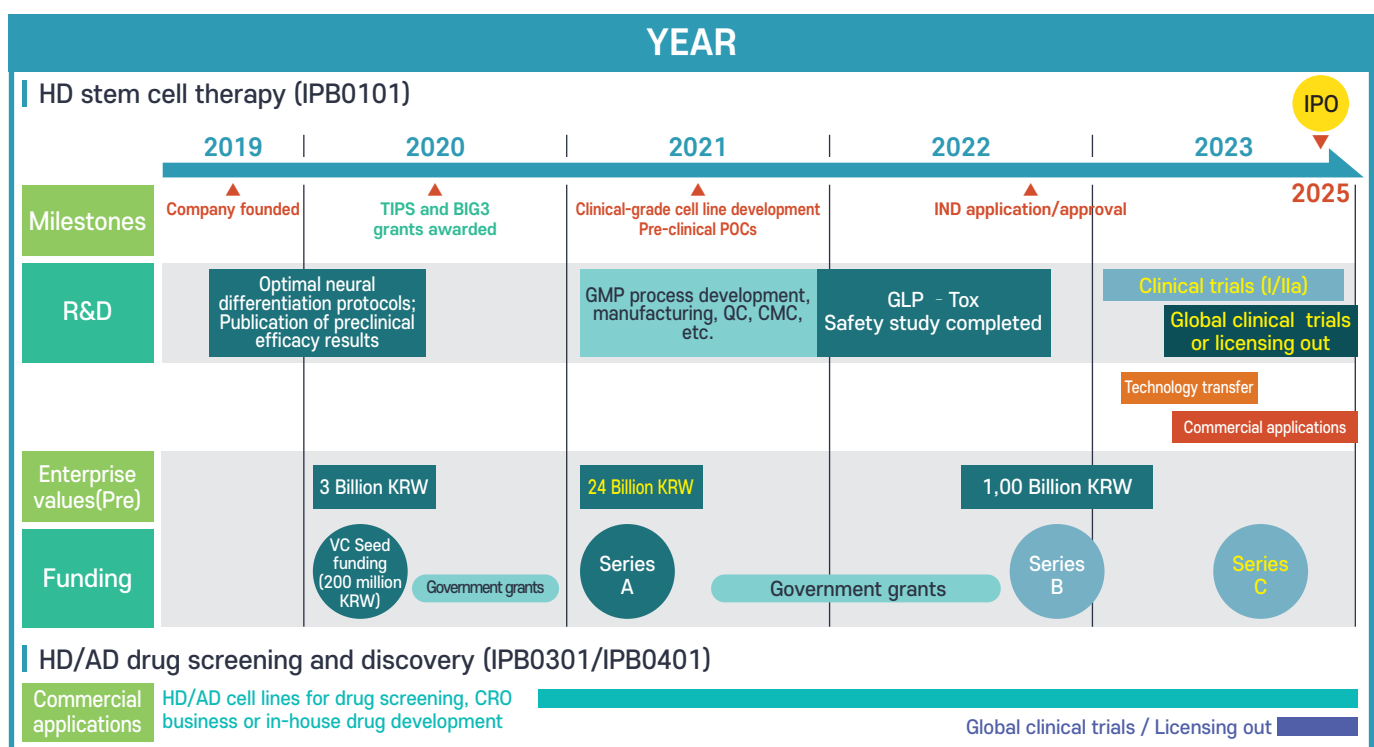
- 1) IPB0101: Allogeneic NPC for Huntington's disease
- 2) IPB0102: Allogeneic NPC for Stroke

02

New HCS platforms using patient-specific iPSC

- 1) IPB0301: Screening cell lines for Huntington's disease
- 2) IPB0401: Screening cell lines for Alzheimer's disease

Plan for commercialization





Vision : **Breaking the Disease Cycle**

Goal : Aevisbio provides a **scientific solution** for the innovative drug development

Overview

Company(Foundation date) Aevis Bio, Inc (2018.9.27)

CEO Dong Seok Kim Ph.D

address 3rd Floor, Institut Pasteur Korea
16, Daewangpangyo-ro 712beon-gil, Bundang-gu,
Seongnam-si, Gyeonggi-do, Republic of Korea

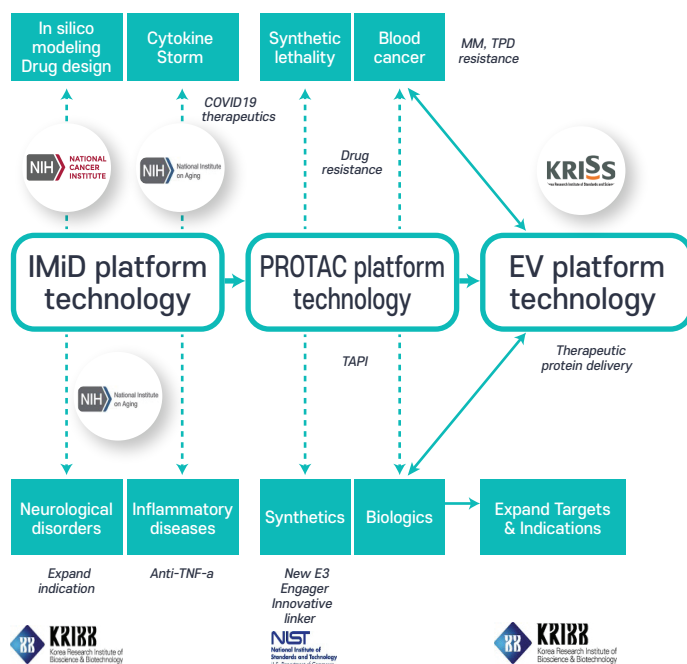
Business Areas New drug development

No. of employees 7 (2 Ph.D.)

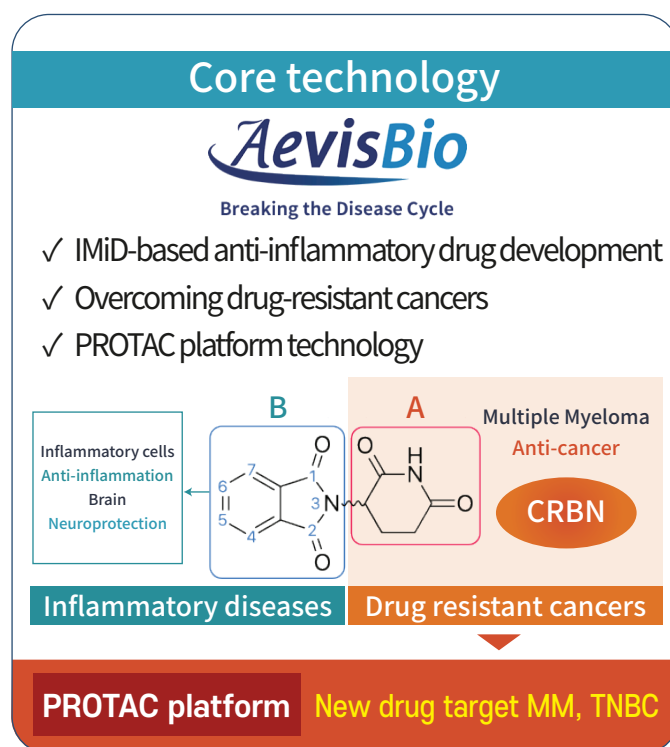
**Homepage/
Tel** www.aevisbio.com
070-7500-4815

R&D strategy

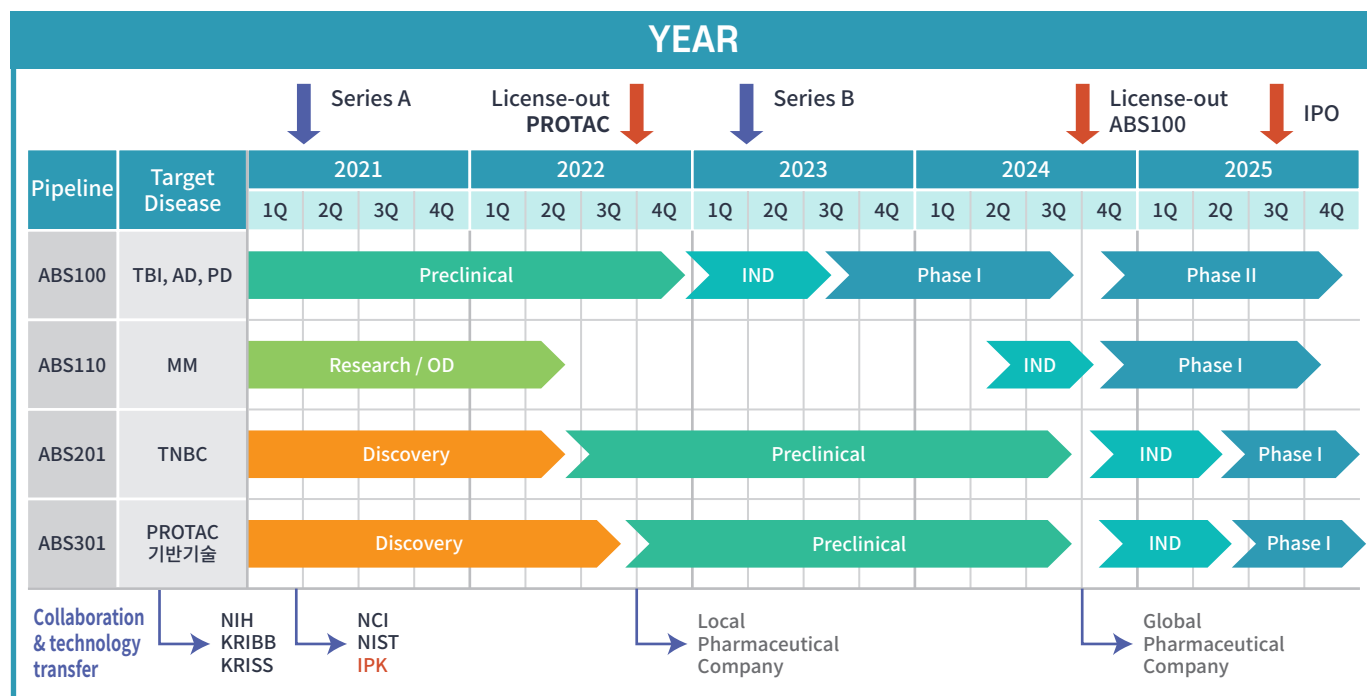
Open Innovation Drug development Strategy & Collaboration Network



Core technology



Plan for commercialization





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