

Mid-Term Strategic Plan KWB 2.0 Full version

All for Kids, Kids for All

KIDS WELL, ALL WELL

Kidswell Bio Corporation



All for Kids, Kids for All **KIDS WELL, ALL WELL**

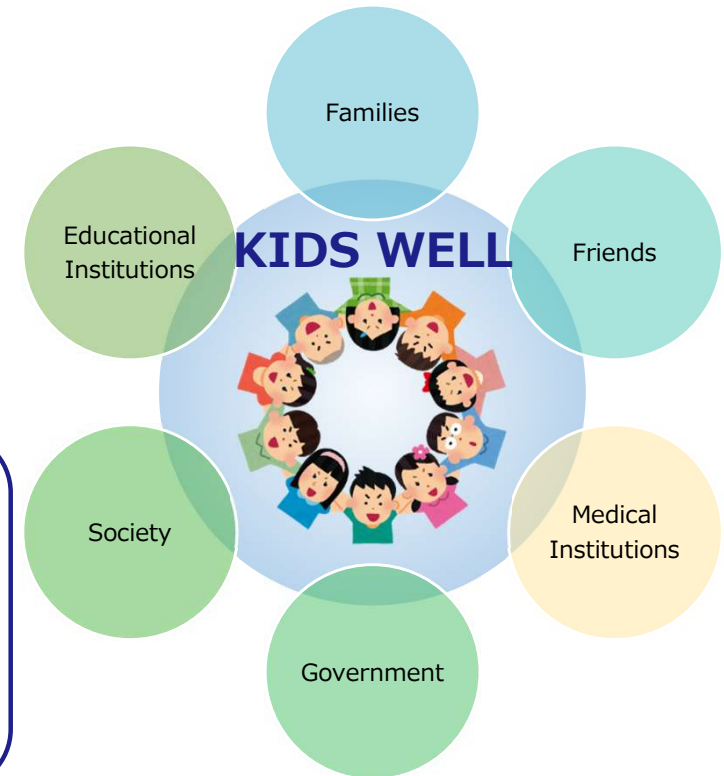
~ For Comprehensive Healthcare System for Children as well as Families, and Society ~

Focus areas

Pediatric diseases including juvenile diseases, intractable & rare disease

Business direction

Targeting diseases which has less accessibility for sufficient medical treatment



All for Kids, Kids for All

- Under the declining birthrate and aging population, reducing the burden on children is a major social issue.
- Provide new pharmaceuticals and therapeutics to patients suffering from diseases and contribute to the realization of a society where children and adults who support children live happily and brightly.



Mid-term strategic plan KWB 2.0 to survive in the competitive environment and promptly realize our vision

Reasons for launching KWB 2.0

- Changes in the biosimilar market -

- Launched GBS-007, our third biosimilar product, as the first biosimilar in the ophthalmology field in Dec. 2021.
 - Sales continue to be better than expected and expecting further growth
- **The entry of biosame (authorized biosimilar (AGS)) into the market is getting impacts to the biosimilar market**

Competitive Biosame

Name of product	Indications	Medicinal effects	Development Company	Approval date	Impact on KWB's products
Eylea (Aflibercept)	Age-related macular degeneration	Anti-VEGF antibody drugs	Bayer Yakuhin, Ltd.	Feb. 2022	Competitive product of GBS-007
Nesp (Darbepoetin Alfa)	Renal anemia	Erythropoietin Receptor Activator	Kyowa Kirin Co., Ltd.	Aug. 2018	Competitive product of GBS-011

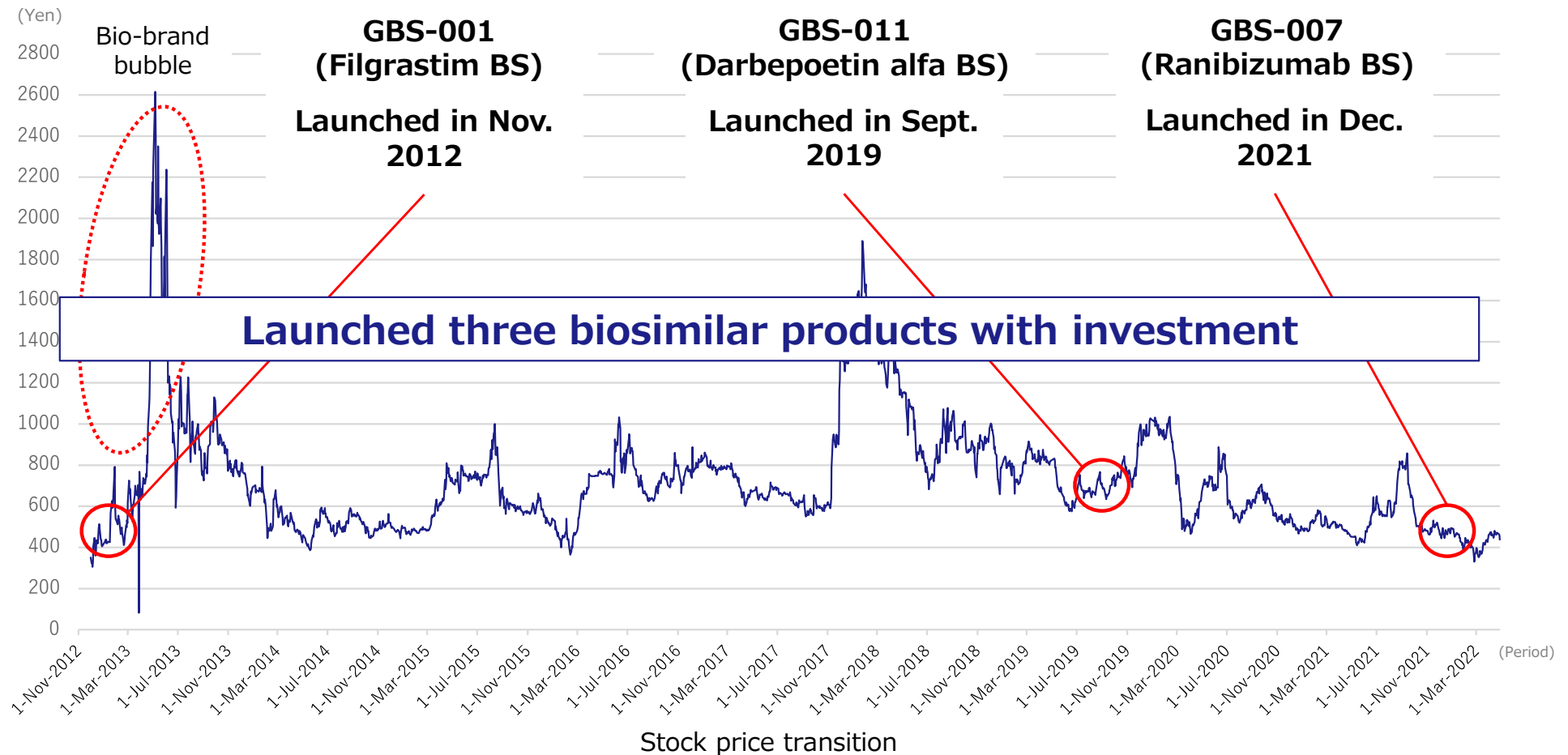
- **As the number of biosame entering the market will increase, the competition for market share with biosimilars will intensify (profitability will decline). As a result, potential partners of pharmaceutical companies will hesitate to launch new biosimilar projects.**
 - **Biosimilar projects that secure enough profitability will become less.**
- **Continue to maximize value for existing biosimilar pipelines**
 - **Need to change KWB's profit structure that relies solely on biosimilar businesses.**

Accelerating the creation of new medicines to increase corporate value by SHED (cell therapy) development

Reasons for launching KWB 2.0

-Strategies for an increase in stock prices -

The stock market didn't evaluate KWB's business expansion by launching biosimilars.

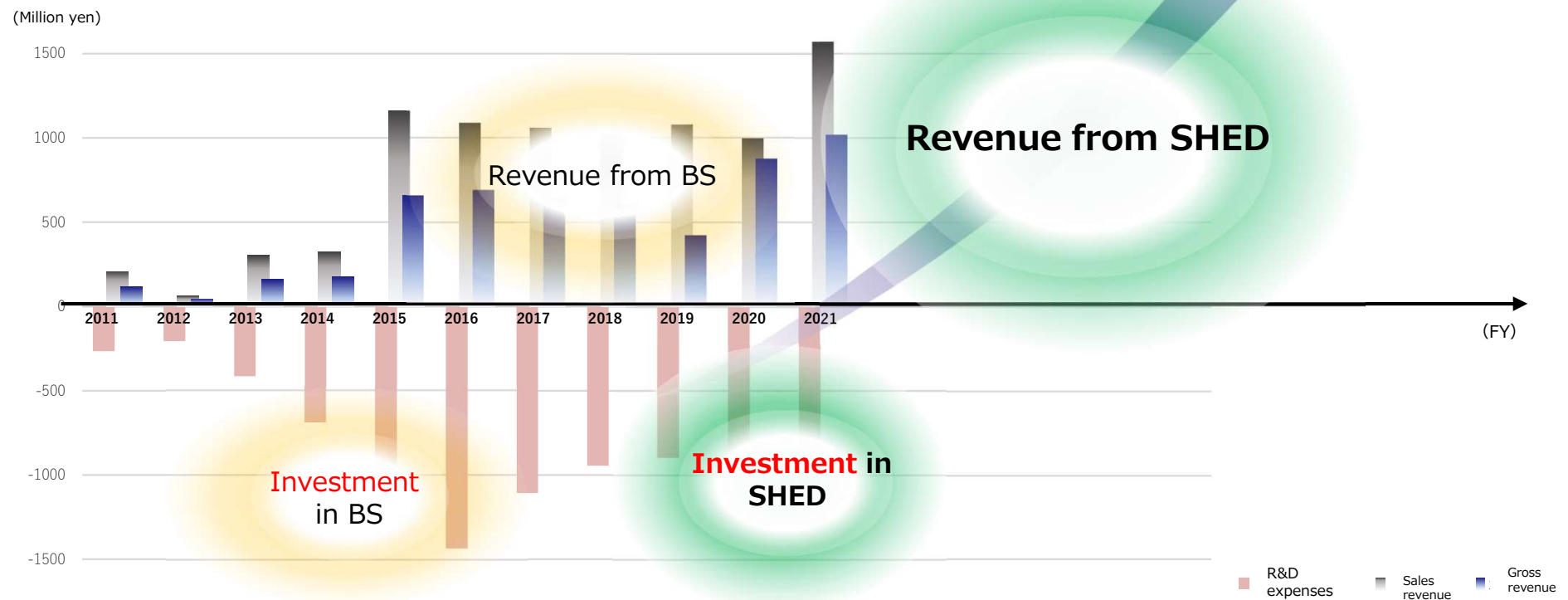


- The launch of biosimilars alone didn't lead to stock price increase.
- Sticking to achieving target profitability with the biosimilar business alone won't be reflected in "big" stock price increase.

Active investment in the SHED (Cell Therapy) pipelines to promptly realize our vision

- Promote global business expansion and R&D of SHED(cell therapy)
- Accelerate development in overseas while continuing business in Japan
- Aiming to launch the world's first SHED medicine/ therapy products by FY 2030
- Continue biosimilar business and new biologics business

Aiming to be a one-of-a-kind company that creates cell and gene therapy products utilizing SHED



Enhancing corporate value

Step-ahead strengths among other bio ventures

- **Profit structure** achieving sales of 3 billion yen and operating income of 1 billion yen in FY 2025
- **Well-knowledge and experienced human resources** in biologics development
- **Well-accumulated know-how** in the development of biosimilar products

Biosimilars Business Foundation

GBS-001
(Filgrastim BS)

GBS-011
(Darbepoetin alfa BS)

GBS-007
(Ranibizumab BS)

Fourth
Product

Fifth Product...

Medium- to long-term cash flow + Experts for proceeding biosimilar pipeline + Well-accumulated know-how

Expand and strengthen profits through biosimilar products

Commercialization

Launching regenerative medicine products of the 1st generation of SHED

For Launching regenerative medicine products of the 1st generation of SHED

- **Establishment of SHED Supply system**
- **Selection of target diseases** through collaborative researches
- **Establishment of clinical development system**

Technology

Invention in SHED and next generation technology

For commercialization of the 2nd generation of SHED

- Introduction of next-generation technologies to generate synergies
- Combination with synergistic devices
- Promoting technology adoption through alliances and acquisitions

Focusing on R&D of SHED pipelines and accelerating R&D in Japan and overseas

Fund-raising

Financing for strategic execution

- **Financing from overseas market**
- **Large-scale financing to realize SHED commercialization**
- Equity financing specialized for SHED development

Human resources and organizational structure

Strengthening SHED development structure

- **Establishment of a SHED delivery system to overseas**
- **Establishing office in overseas**
 - **Fostering networks with international medical institutions and academia**
 - **Strengthening cooperation between Japan and overseas**
- **Staff recruiting for global expansion**

Breakthrough in SHED

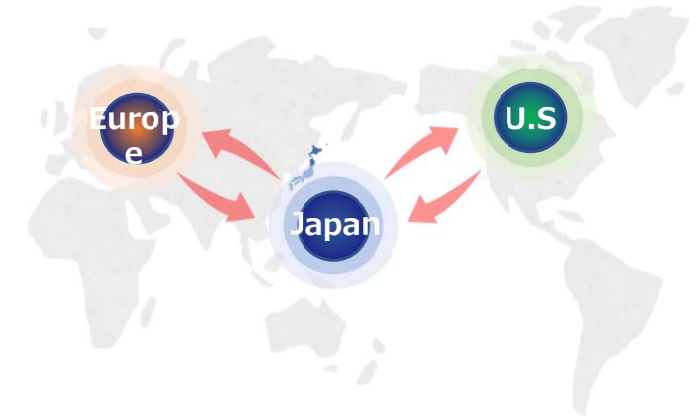
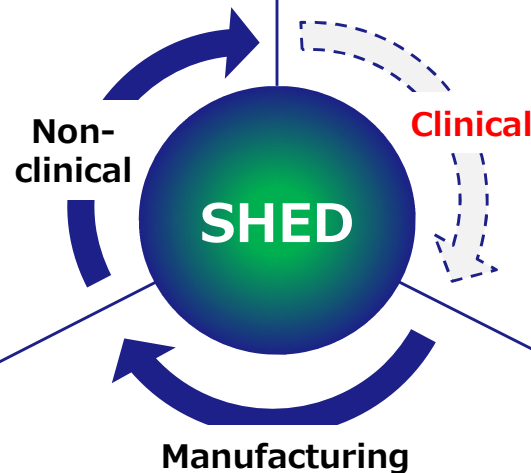
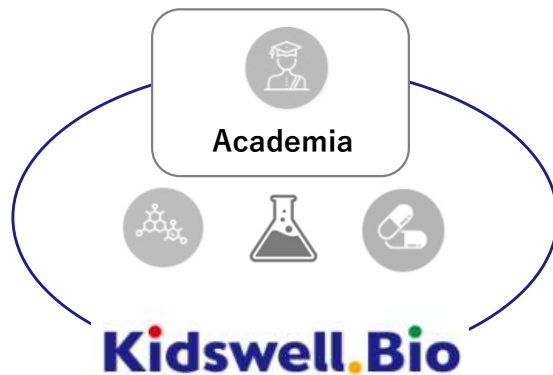
- Prompt commercialization of the first generation of SHED -

Selecting target diseases through joint research with academia

Based on the evidence through our R&D, further joint research will be promoted and maximize SHED potential.

Accelerating clinical development in Japan and overseas

Through Real World Data (RWD), Virtual Clinical Trials (DCT), aiming for shortened clinical trial period and early commercialization

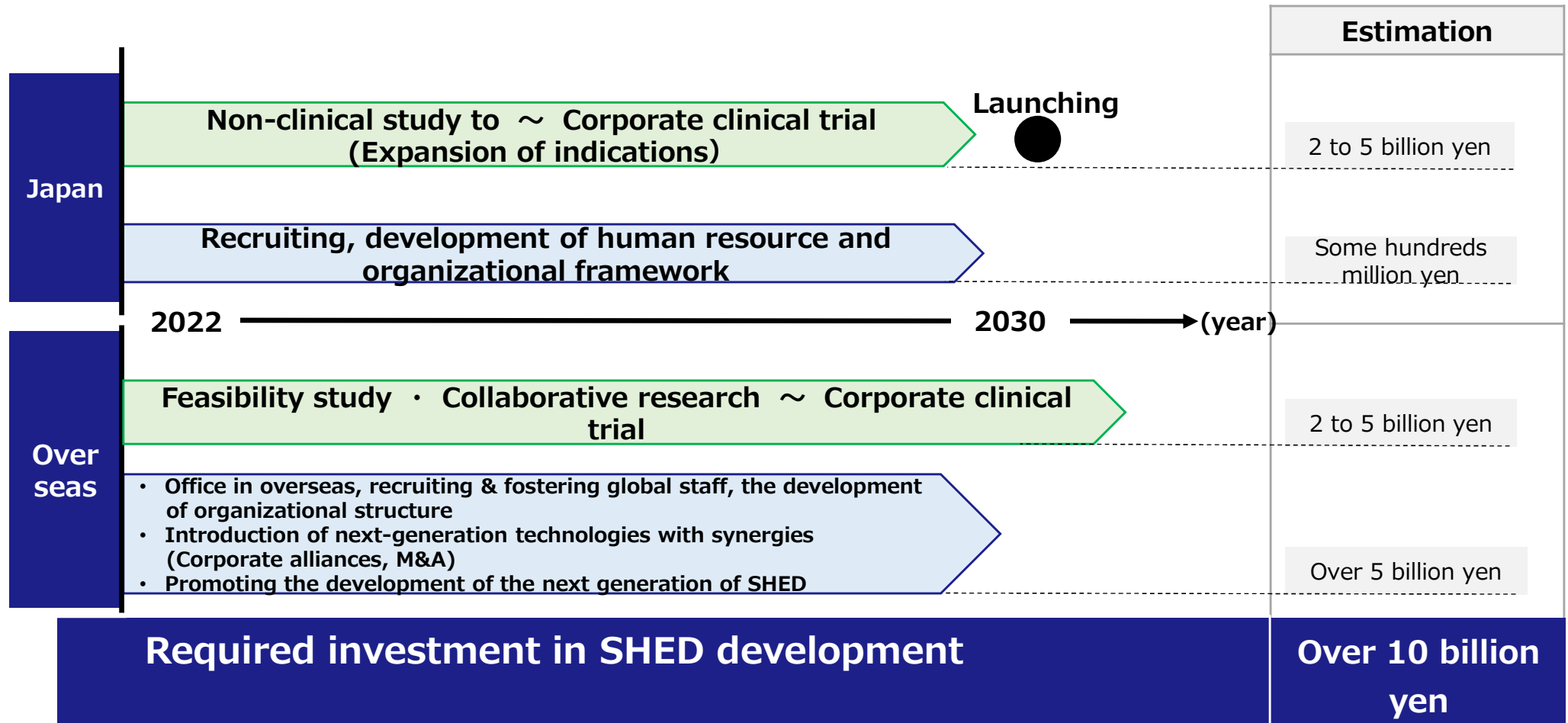


S-QuatreSM
(SHED Source Supply Service)



A one-stop service to providing highly reliable and domestically produced SHED as an intermediate product for regenerative medicine products through business collaboration

Focusing on SHED development and accelerating investment for increase in corporate value



Making investments for launching SHED regenerative medicine/ cell therapy products with equity financing

- Contributing to society by the development of human resources and organizational structure that leads to an increase in KWB's corporate value
- Pursuing contributions to society (S in sustainable development goals) through the creation of new medical treatments

Experts

- Recruiting human resources with knowledge and experience in the regenerative medicine (cell therapy) field
- Recruiting human resources with knowledge of next-generation modality
- Recruiting global human resources for overseas business activities

Challenging work environment

- Talent management to realize human resources strategy
- Fostering a corporate culture with diversity (gender, age, nationality, values)
- Flexible and appropriate personnel allocation
- Execution of career development plan (human resources development plan)

Respect for each employees' work style

- Flexible work system under emergency and pandemic
- Establishing work infrastructure for flexible work styles
- Fostering a corporate culture for understanding each working style

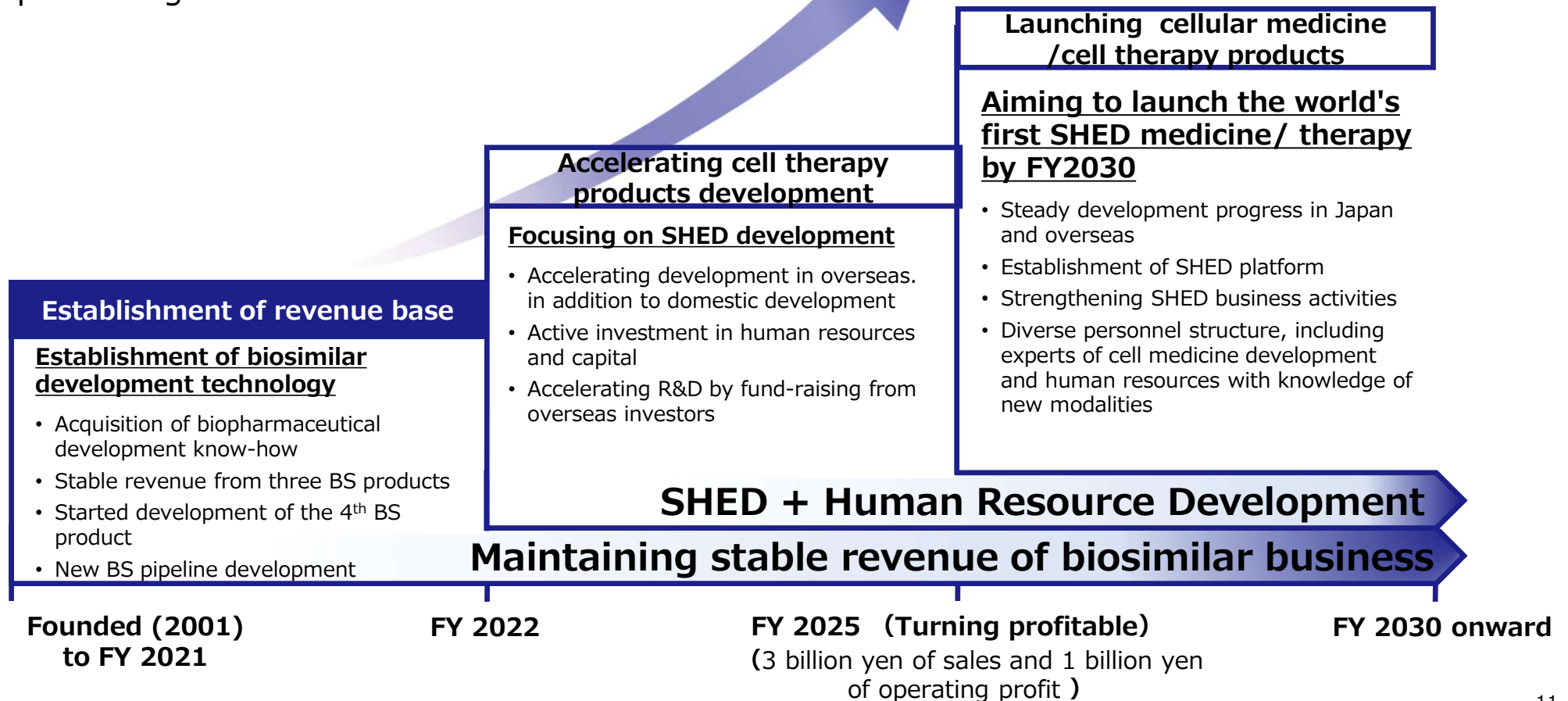
Organizational culture
with plenty of creativity
and innovation



Accelerating our R&D activities to realize our vision

- Accelerate SHED R&D activities to realize our vision and increase corporate value.
- Continue stable revenue from biosimilar business and reduce manufacturing costs
- Determine when to achieve profitability by prioritizing accelerated investment

KIDS WELL, ALL WELL



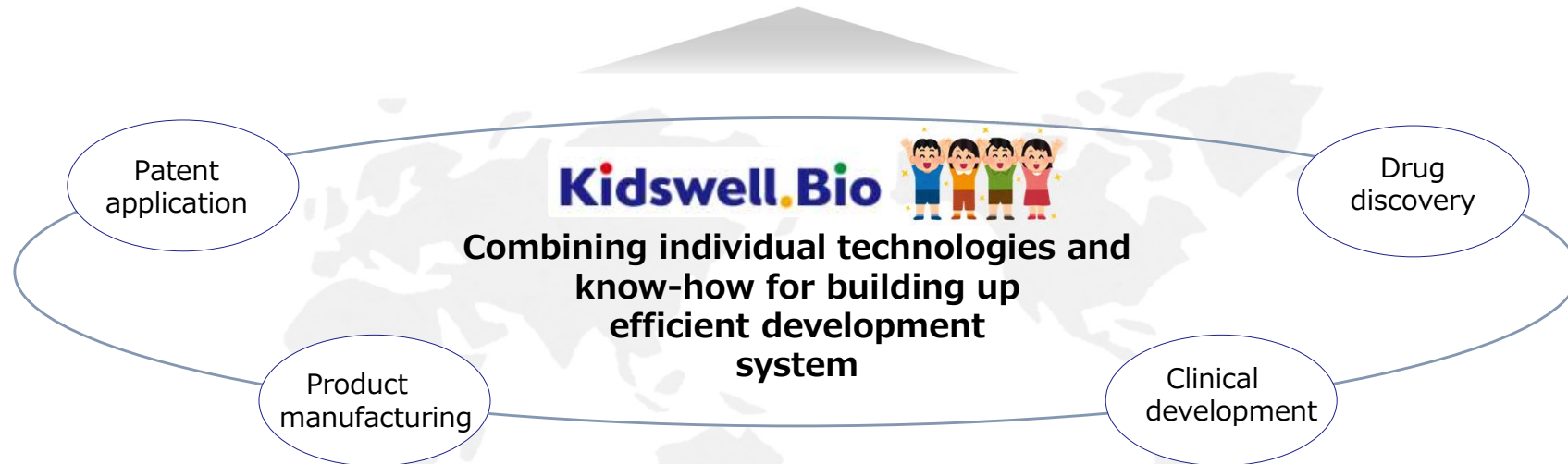
Two Virtuous Cycles through “Kids Centricity”



Creating regenerative medicine with SHED for all generations



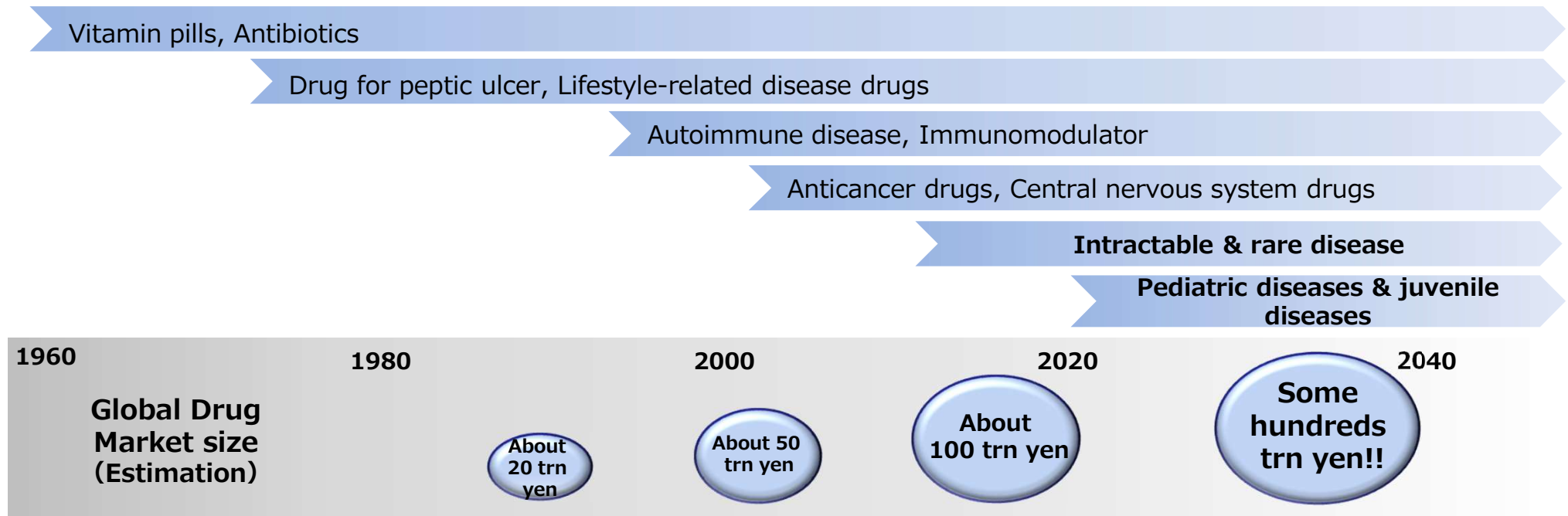
More people will overcome diseases and they will play an active role in our society.



Integrating technologies and know-how in Japan and overseas and building up efficient R&D system

Cell Therapy Business (Regenerative Medicine)

- Trends of diseases have shifted from the number of patients to subdivided diseases.
 - From blockbuster products* to individual products
 - Global drug market size will exceed 100 trillion yen.
- * Products with global annual sales of more than 100 billion yen



Diseases with **many patients**
Blockbuster products



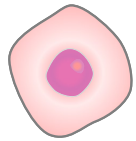
Subdivided diseases
Individual medical treatment

- Increase importance of individual medical care
- R&D of intractable, rare and pediatric diseases, which tend to be behind, will be more focused.

SHED
**(Stem Cells from Human
Exfoliated Deciduous teeth)**

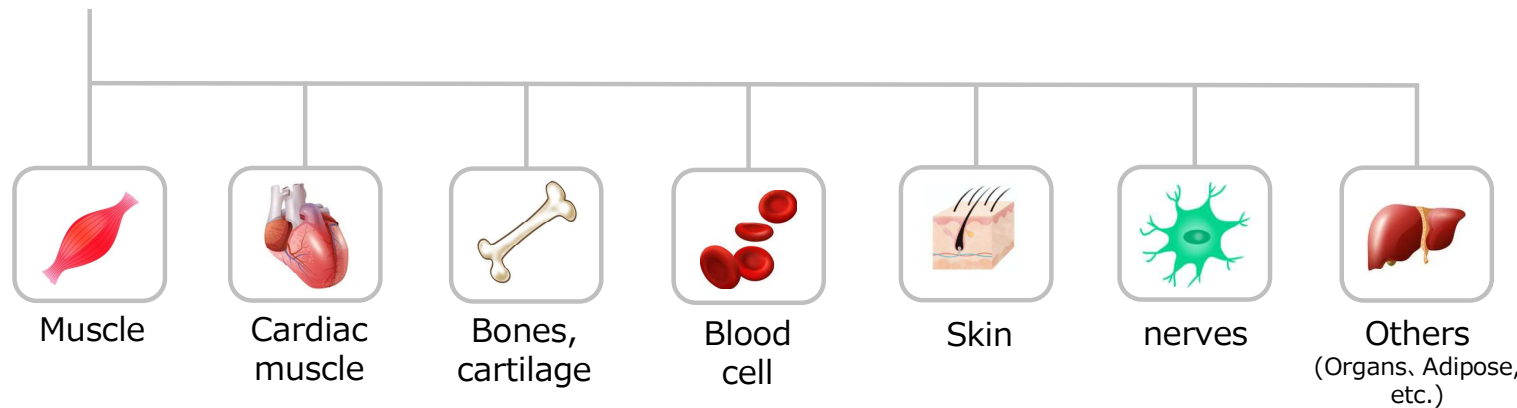


What are stem cells? (For regenerative medicines) **Kidswell.Bio**

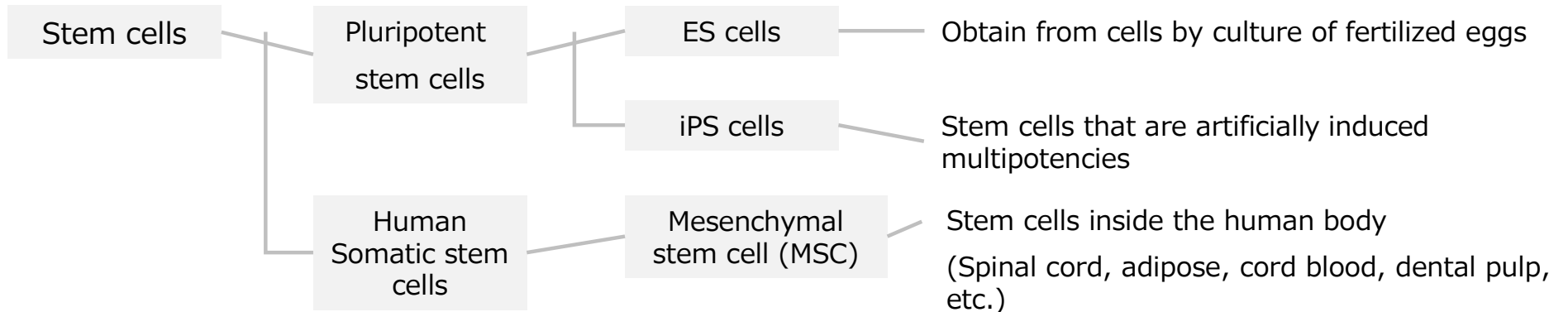


Stem cell

- Muscles, bones, blood, organs, skin, nerves, etc. are all made of cells.
- Stem cells are the source of all cells.
- Stem cells **can repair and regenerate cells and tissues** that can't perform their original functions due to illness.



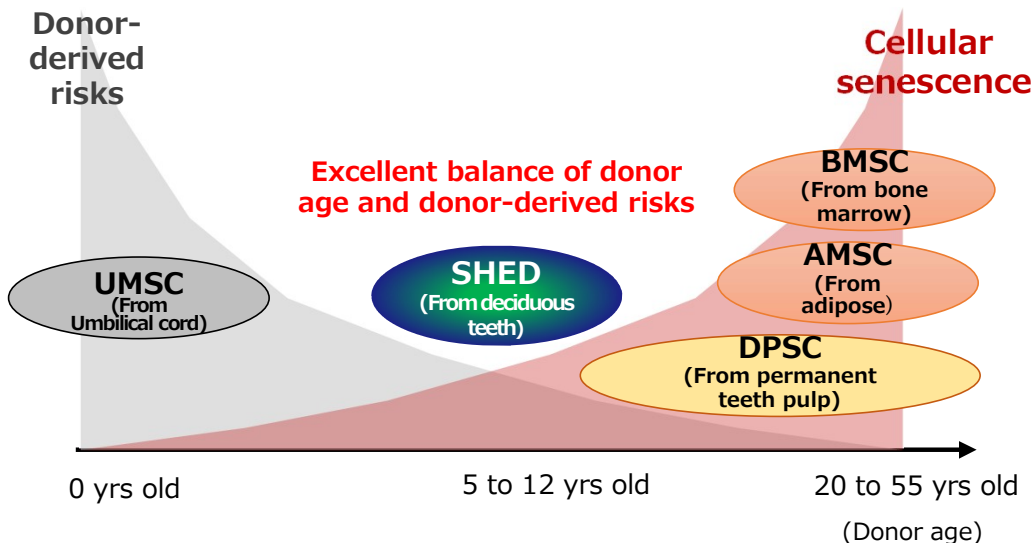
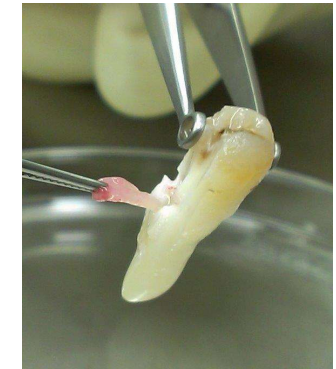
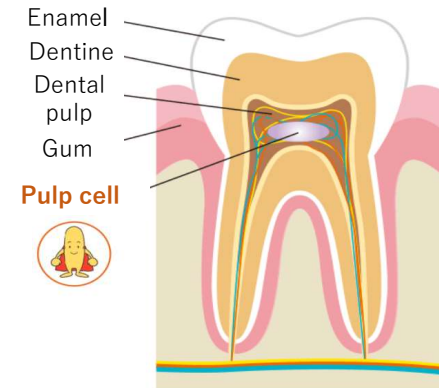
Kinds of stem cells



Focus on stem cells of **deciduous teeth**

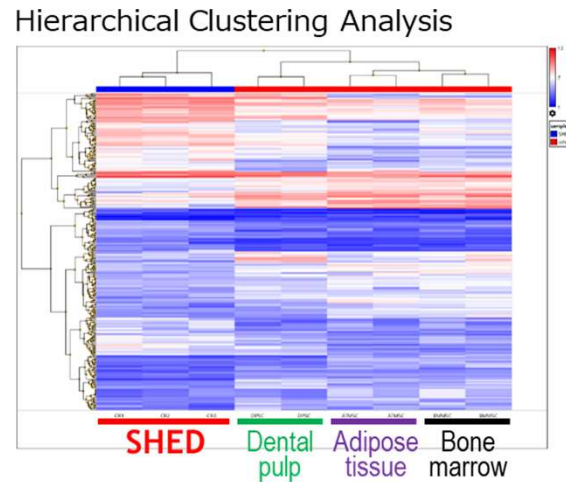
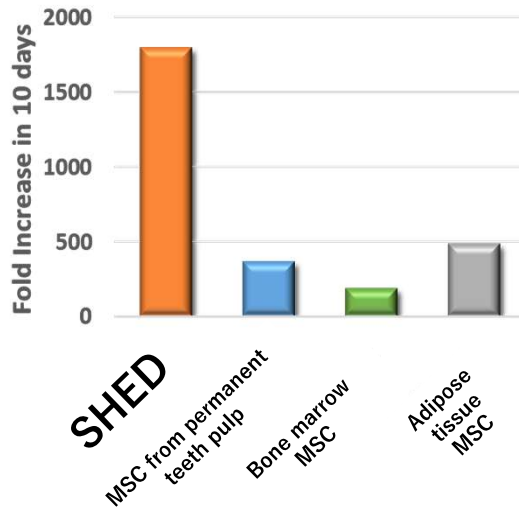
SHED : Stem cells from Human Exfoliated Deciduous teeth

- One type of **dental pulp stem cells** that extracts from a dental pulp cavity
- **SHEDs** have extremely high proliferating ability, repair and regenerative capabilities.
- Possible to extract from the deciduous teeth, **which has many sampling timings, and less burden on the donor.**
- A new stem cell with a short research history in the world

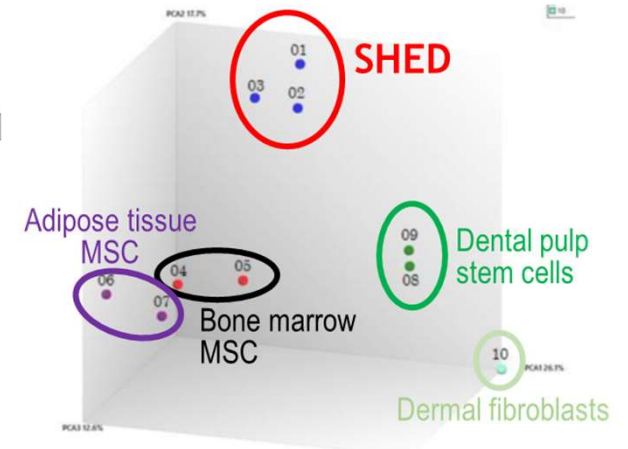


	Dental Pulp (SHEDs)	Bone Marrow	Adipose	Umbilical cord
Type of Bank	Private	Public	Private	Public/Private
Age of Donor	5 to 12 yrs old	20 to 55 yrs old	Mostly over 20 yrs old	0 yr old
Timing of Extraction	Usually 20 times at extraction of deciduous teeth	When transplantation	When surgery	Time of birth
Burden on Donor	Low	High	High	Very low
Proliferating Ability	Very high	High	High	Research stage

Pulp stem cells from neural crests are expected to be particularly applicable to **diseases of the nervous and muscle/bone systems.**



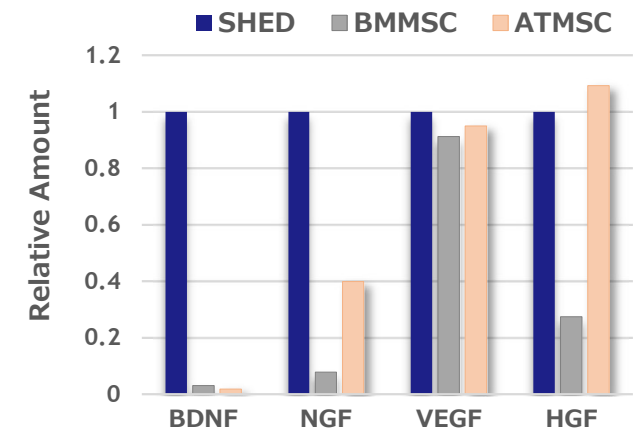
Principal Component Analysis



SHED: Young cell and highly proliferative ※

SHED: High gene expression related to neurogenesis, angiogenesis, and cell migration ※

Features of SHED	Application for regenerative medicine
High proliferative ability ^{※1,2}	Sufficient cells in a short period of time
Expression of neurogenesis-related genes ^{※1,3} , high secretion of nervous system growth factor ^{※1,4} and high nerve regenerative ability ^{※1,5}	Diseases related to nerve regeneration (Ex. Spinal cord injury, brain infarction, cerebral palsy, etc.)
High bone regenerative ability ^{※1,6}	Diseases required bone regeneration (Ex. Non-union fracture, osteonecrosis of the femoral head, etc.)



SHED: High secretion capacity of neurotrophic factor (BDNF, NGF) ※

※ KWB internal data

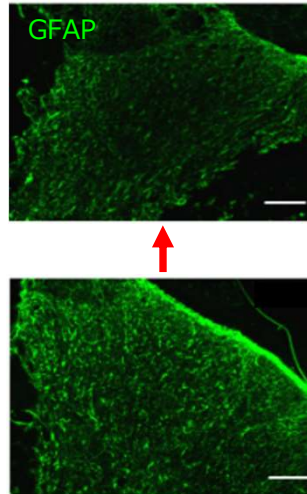
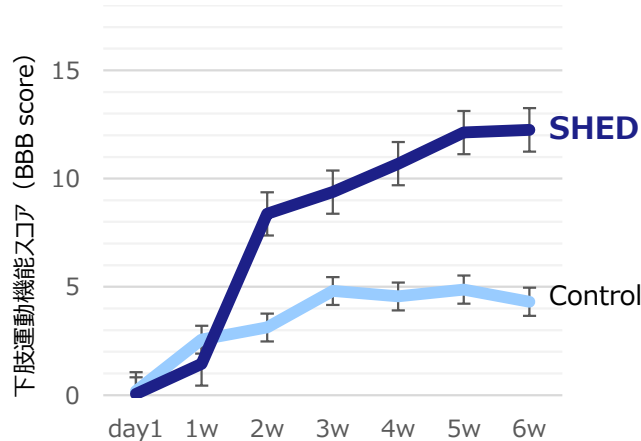
SHED R&D Projects as our growth driver

※ Details not disclosed

Development Product	Target disease	Symptom	Existing Treatment	Therapeutic target	Partners	Number of patients (Domestic)	Number of patients (Global)
1 st generation SHED	Pediatric disease Cleft lip and palate	Eating and speech disorder	Lip arthroplasty + iliac bone graft	Maxilla bone regeneration	ORTHOREBIRTH	2,000 patients per year	15 out of 10,000 newborns
	Pediatric disease Congenital Isolated Hypoganglionosis	Intestinal obstruction	Enterectomy, colostomy	Ganglion regeneration	Mochida Pharmaceutical	100 patients	—
	Pediatric disease Cerebral palsy	Quadriplegia and Posture disorder	None	Nerve protection, activation and regeneration	Tokyo Metropolitan Institute of Medical Science, Nagoya University, Tokyo Medical and Dental University	2,000 patients per year, 30,000 patients in total	100,000 patients per year, 1.7 millions patients in total
	Including Pediatric disease Spinal cord injury	Loss of motor function and sensation	None	Nerve protection, activation and regeneration	Nagoya University	5,000 patients per year, 100,000 patients in total	25,000 patients per year, 500,000 patients in total (US, EU and Japan)
	Non-union fractures	Chronic pain, gait disturbance	Surgery	Bone regeneration	Hokkaido University and Spinal Injuries Center	100,000 patients per year	—
	Peripheral nerve palsy	Motor function and sensation disorder	Nerve reconstruction (Autologous nerve transplantation)	Peripheral nerve regeneration	Oita University	8,000 surgeries per year	—
	Bone-related diseases	※	※	※	Showa University School of Medicine	※	※
	Ophthalmologic disease	※	※	※	Gifu Pharmaceutical University	※	※
2 nd generation SHED	Under consideration	※	※	※	NanoCarrier, BioMimetics Sympathies	※	※

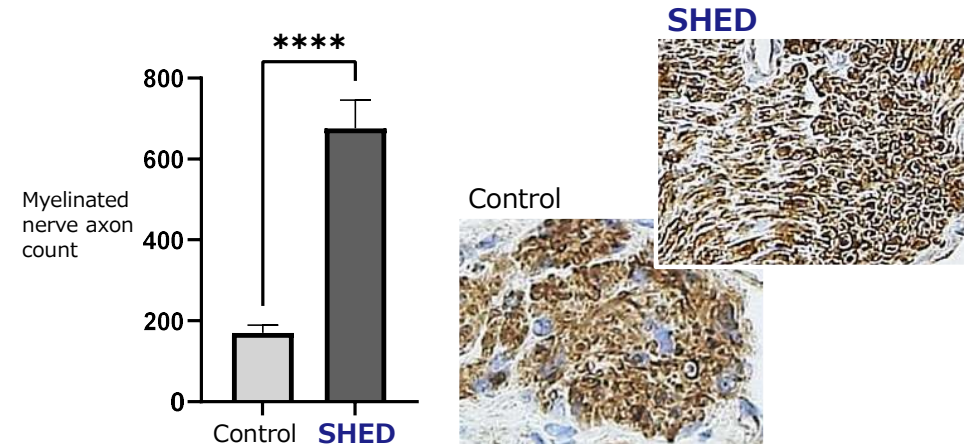
Progress in collaborative researches with academia for the application of diseases related to the nervous and muscle/bone systems

Spinal Cord Injury



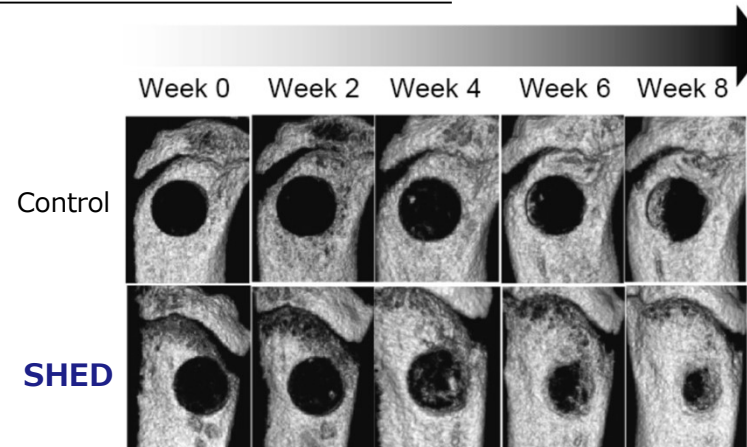
Improvement of motor function and gliosis with SHED administration

Peripheral Nerve Palsy



Missing nerves regeneration with SHED transplantation

Non-Union Fractures

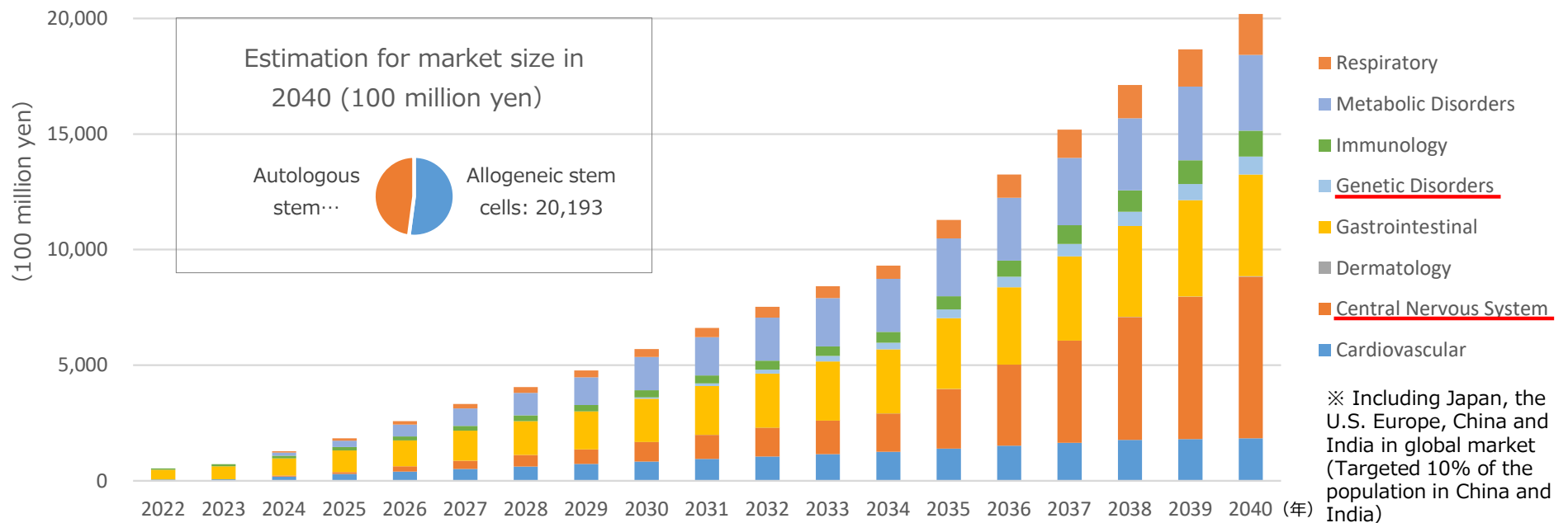


Defective bone regeneration by SHED transplantation

	Cerebral palsy	Spinal Cord Injury	Non-union fractures
Existing treatment	None	None	Noe
Number of patients	10,000 patients per year in U.S. (children)	12,500 patients per year in U.S.	100,000 patients per year

Made by KWB from MyChild at CerebralPalsy.org and OSSGROW FOR NON-UNION FRACTURES, DOI: 10.1177/2151458517696680

Nervous system and muscle/ bone diseases targeted by SHED will grow from 700 billion to 800 billion yen market by 2040.



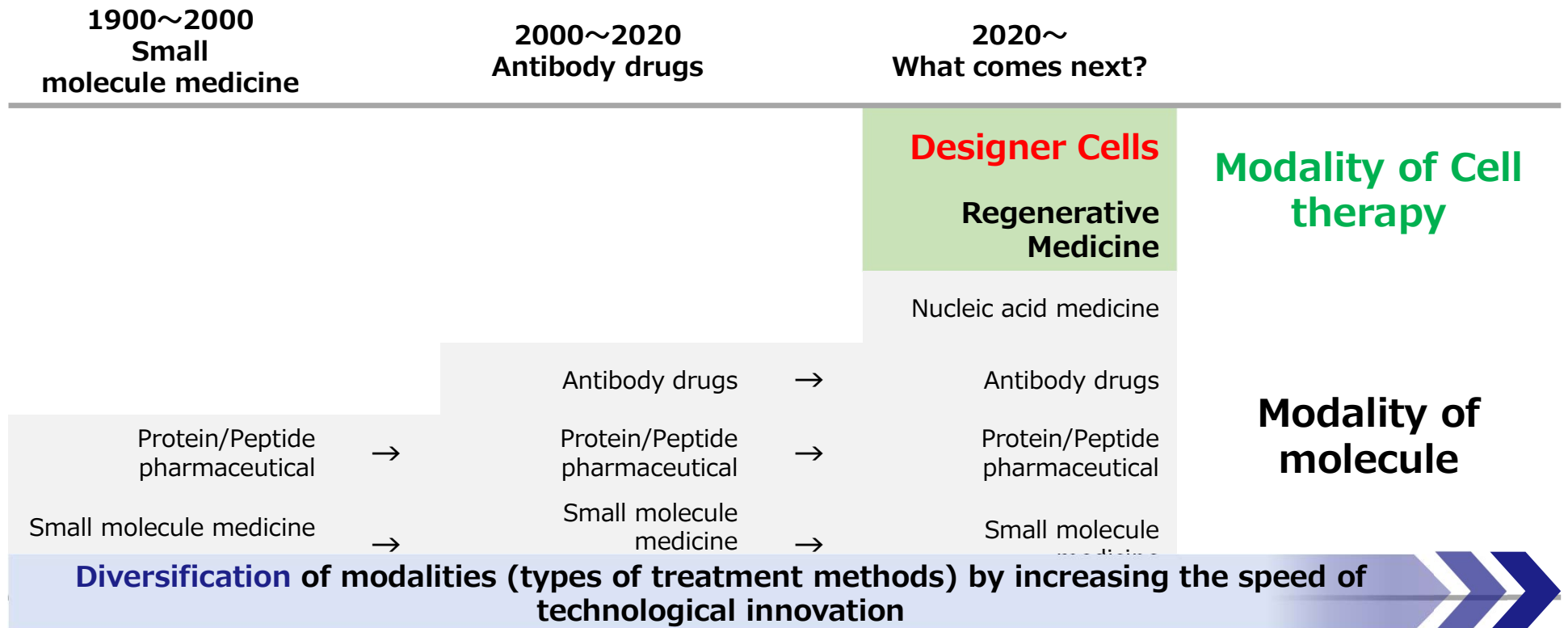
Estimation for market size of allogeneic stem cells

KWB's research based on Regenerative medicine and gene therapy market research in 2019 Final report from the website of Japan Agency for Medical Research and Development, Global Data from epidemiological literature and websites from rare diseases (Orphanet, NORD, Japan Intractable Diseases Information Center, Clinical Development Success Rates 2006-2015, BIO Industry Analysis] and related documents from general meeting of Central Social Insurance Medical Council

2nd Generation SHED



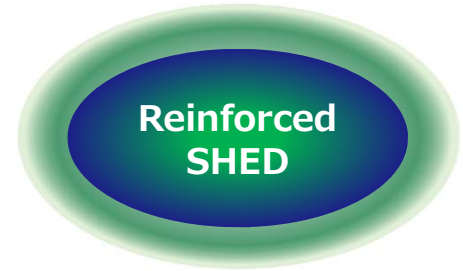
Shift to development trends in domestic & overseas :
designer cells for radical treatments



Created by Kidswell Bio Corporation referring from strategic proposal "Designer Cell" by Japan Science and Technology Agency

Launched development of designer cells as reinforced SHEDs to achieve high medical treatment goals

- Development of new gene transfer methods
(Ex: NanoCarrier)
- Development of new culture methods
(Ex: BioMimetics Sympathies Inc.)
- Verification of the effects of various types of transgenes
(Ex: Nagoya Univ., Hamamatsu University School of Medicine)

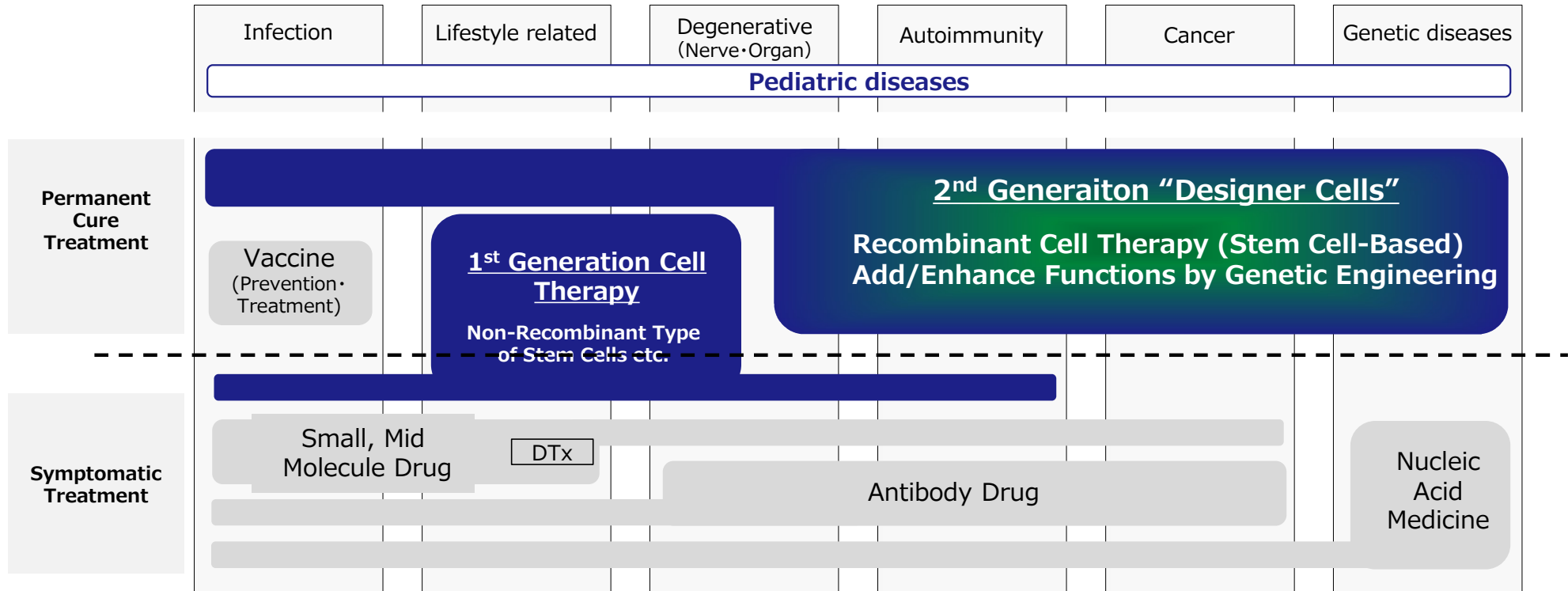


Target diseases of development[※]

- Genetic diseases
- Degenerative (Nerve)
- Cancer, etc.

※ in addition to nervous and muscle/bone diseases in the list of target diseases of 1st generation SHED

Aim to develop reinforced SHED with enhanced therapeutic efficacy




S-Quatre: SHED Supply Source Service



Manufacture SHED MCB in compliance with GMP

SHED MCB Manufacturing

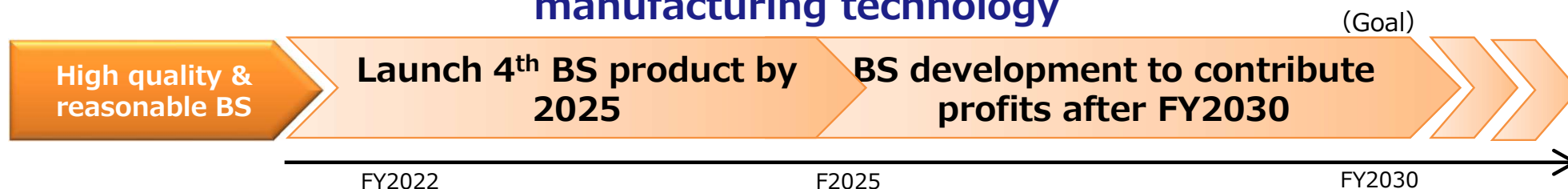
Process	Deciduous teeth donation	Tooth extraction	Isolation and Cultivation (MCB)	Development of final products
Organization	Kidswell Bio Corporation			
	ChiVo Net 	Univ. of Tokyo Hospital Showa Univ. Dental Hospital	Nikon CeLL innovation (Cell development· Manufacturing)	Development Partners
Role	Secure stable registration of donor candidates	Confirmation of the general condition of the donor and tooth extraction at the dentist and oral surgery	Manufacturing MCB in compliance with GMP	Supply MCB to development partners to develop final products
		<ul style="list-style-type: none"> • Explanation and acquisition of consent • Gather and provide donor information • Donor screening (examination & inspection) • Collection and provision of extracted teeth • Management of information related to research implementation • Management of Personal Information and research IDs 	<ul style="list-style-type: none"> • Receive extracted teeth • Isolate and culture SHED from pulp tissue • Manufacture MCB in compliance with GMP 	<ul style="list-style-type: none"> • Manufacture final products such as cell therapies, ex-vivo gene therapies, and exosome therapeutics with MCB • Possible to consign manufacturing final products.


S-QuatreSM
(SHED Source Supply Service)

Establishment of SHED
 intermediate product supply
 service

Biosimilar Business

Challenge the development of new biosimilars with our experience of the launch of three BS products and cost competitiveness through highly efficient manufacturing technology



【New BS pipelines】

- Promote the development of new biosimilars with high-cost competitiveness, although the environment for the biosimilar market is severe due to the impact of biosame.
- Aiming to create biosimilars that significantly reduce the financial burden on patients against biopharmaceuticals with high annual drug costs.

【Experience of launch of BS products】

Accumulated track record: Knowledge and experience in the development and the launch of BS products from the start of the biosimilar business in 2007

Project	GBS-001 (Filgrastim BS)	GBS-011 (Darbepoetin alfa BS)	GBS-007 (Ranibizumab BS)
Outline	G-CSF製劑 (顆粒球細胞形成刺激因子製劑)	持續型赤血球造血刺激因子製劑	Anti-VEGF antibody drug
Therapeutic area	Neutropenia	Chronic Kidney Disease, Renal anemia	Age-related macular degeneration
Partners	Fuji Pharma Co., Ltd., Mochida Pharmaceutical Co., Ltd.	Sanwa Kagaku Kenkyusho Co., Ltd.	Senju Pharmaceutical Co., Ltd.

【High-Yield Protein Producing Technology】

Promoting collaborative researches with chromocenter (artificial chromosome technology) and SOLA Biosciences (Tapboost® technology*) to dramatically reduce manufacturing costs and ensure cost competitiveness and profitability

(* Technology to correctly arrange the three-dimensional structure of the target protein in the production cell line)

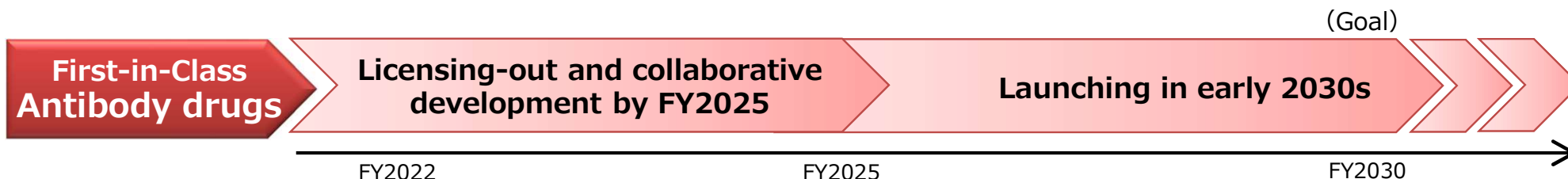
Chromocenter	SOLA Bioscience
Increase in number of gene copies by artificial chromosome technology = Mass production of mRNAs	Increased rewind efficiency by Tapboost® => Mass production of proteins

Biosimilar pipeline

Project	Therapeutic area	Basic research	Clinical trial (Clinical study)		Applicatio n/ Mark eting	Appr oval / Lau nch	Partners
			Phase I	Phase III			
GBS-001 Filgrastim	Oncology						Fuji Pharma Co., Ltd. Mochida Pharmaceutical Co., Ltd.
GBS-004 Bevacizumab	Oncology						
GBS-005 Adalimumab	Immunological disease						
GBS-007 Ranibizumab	Ophthalmic disease						Senju Pharmaceutical Co., Ltd. Ocumension Therapeutics
GBS-008 Palivizumab	Infectious disease						
GBS-010 PEG-filgrastim	Oncology						
GBS-011 Darbepoetin alfa	Renal disease						Sanwa Kagaku Kenkyusho Co., Ltd.
GBS-012 Aflibercept	Ophthalmic disease						Kishi Kasei Co., Ltd.

New Biologics (antibody) Business

Challenge to create antibody drugs with completely new mechanisms of action



●Oncology

- Therapeutic antibodies for malignant lymphoma
Create therapeutic antibodies with a new mechanism of action that does not depend on the patient's immunity and induces direct cell death

●Circulatory diseases

- Therapeutic antibodies for pulmonary hypertension
Create new therapeutic antibodies by production of inhibitory antibodies for substances that are candidate of root-cause substances for pulmonary hypertension
- Therapeutic antibodies for vasculitis
Identify the causative agent that causes excessive inflammation in the vascular wall and create therapeutic antibodies with new mechanisms of action that inhibit the substance

Project	Therapeutic Area	Basic Research	Non-Clinical Trial	Clinical Trial and Clinical Study			Application / Marketing	Approval / Launch	Partner
				Phase I	Phase II	Phase III			
GND-004	Ophthalmic disease, Oncology	██████████	██████████						
GND-007	Immunological disease	██████████							
New Antibody	Oncology	██████████							Sapporo Medical Univ.
	Oncology	██████████							MabGenesis Co., Ltd.

Create new therapeutic antibodies for malignant lymphoma

【Target disease】

Malignant lymphoma

- Lymphoma is a part of white blood cells (B cells, T/NK cells) that become blood cancer
- **10% of pediatric cancer**

【Challenges of current treatment】

- Less radical cure and high mortality rate for high grade of malignancy
- CAR-T cell therapy has been developed for some B-cell lymphomas, but side effects are strong. The cost of treatment is high (drug price 33.49 million yen), putting pressure on medical finances.

【KWB's strategy】

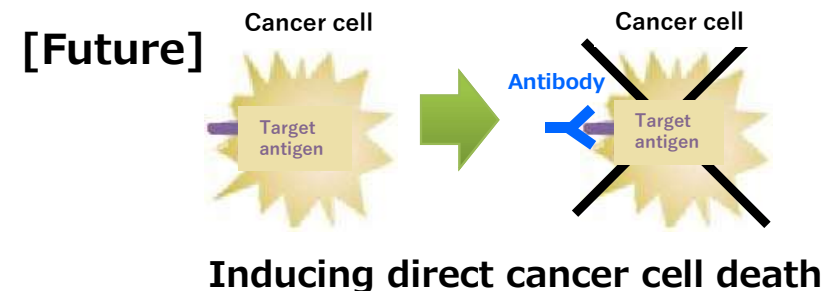
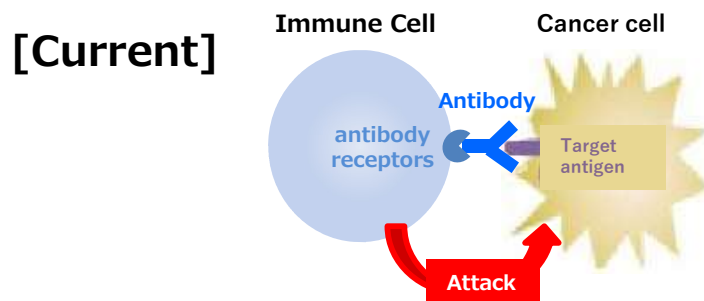
- Aim to create innovative therapeutic antibodies for malignant lymphoma that are highly effective in patients with lowered immunizing power.
- **Developing R&D of antibodies with a completely new mechanism of action that binds to malignant lymphoma cells and directly kills them.**

【Market overview】

Existing treatment method: CAR-T therapy

Though worldwide sales of Kymriah, Yescarta, Tecartus (brexucabtagene autoleucel) etc. reached 72 billion yen, expecting **more than 300 billion yen sales around 2026.**

The domestic market for malignant lymphoma of medicines including chemotherapy is about 80 billion yen as of 2021.



Create new therapeutic antibodies for vasculitis

【Target disease】

Vasculitis (Kawasaki disease and others)

- An intractable disease in which organ or tissue function is reduced due to inflammation and bleeding in the vascular wall and clots
- Classified by the type of blood vessel in which inflammation occurs, Kawasaki disease is a pediatric vasculitis discovered in 1967 by Dr. Tomisaku Kawasaki
- Kawasaki disease is a serious disease that highly complicates coronary aneurysms in addition to symptoms such as fever and rash due to excessive inflammation in the vascular wall. The cause of disease has not clarified yet.

【Challenges of current treatment】

- Standard therapy is administration immune globulin. Concerns about safety and radical treatment is urgent issue because effect is not enough for 15 % of patients (children).

【KWB's strategy】

- Research on the causes of vasculitis
- **Aim to identify root-cause substances**
- **After identifying the causative substance, aim to create an inhibitory antibody** and create an innovative new therapeutic methods for vasculitis including Kawasaki disease.

【Market overview (Estimates by KWB)】

Kawasaki disease

Number of domestic patients is 15,000 patients per year. The current market size is equivalent to about 4 billion yen.

Other vasculitis

Domestic market size will be more than 100 billion yen with the expand indication.



Source: 川崎病研究班
「診断の手引」より引用

Creating new therapeutic antibodies for Pulmonary Hypertension

【Target disease】

Pulmonary Hypertension

- Pulmonary hypertension is a group of poorly prognostic progressive diseases that result in high blood pressure in the blood vessels "pulmonary arteries" that send blood from the heart to the lungs and cause dysfunction of the heart and lungs.
- There are multiple causes such as left ventricular dysfunction, pulmonary artery thickening, chronic obstructive pulmonary disease, etc., and 5 years survival in the case of untreated is 50%.

【Challenges of current treatment】

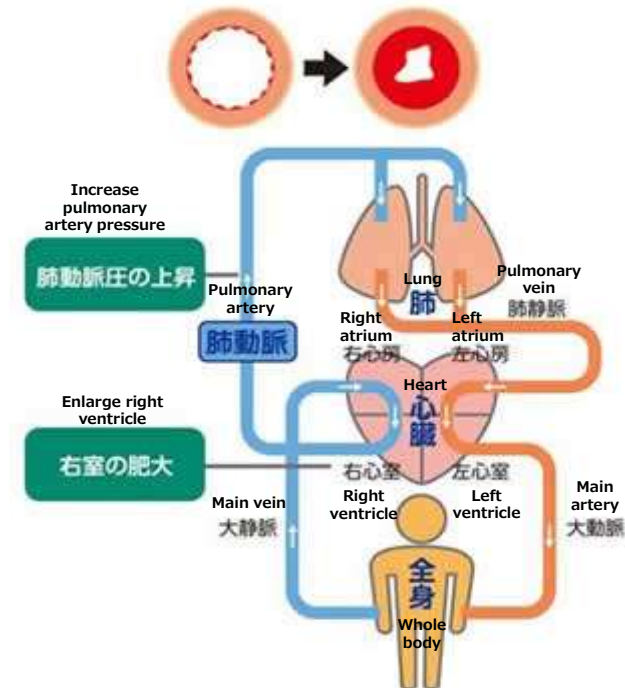
- There is a treatment with vasodilator, but the therapeutic effect is limited for patients with advanced disease states.
- The effect has not been confirmed for a large number of pulmonary hypertension to the left heart dysfunction and chronic obstructive pulmonary disease.

【KWB's strategy】

- **Create inhibitory antibodies for substances that are potential root-cause of pulmonary hypertension**
- Verify the mechanism of action and its effectiveness in animal models and aim to create a completely new therapeutic methods for pulmonary hypertension.

【Market overview (Estimates by KWB)】

The number of domestic potential patients is estimated about 250,000 patients. If the annual treatment cost was 4 million yen and 25% of the potential patients received treatment, it would be a market size equivalent to about 250 billion yen.



Source from website of Cardiovascular Medicine, University Hospital Kyoto Prefectural University of Medicine

This information material is provided for understanding Kidswell Bio Corporation (“KWB”), not for soliciting investment in KWB shares.

Information provided in this material may contain so-called “forward-looking statements.” These statements are based on current expectations, forecasts and assumptions that are subject to risks and uncertainties, which could cause actual outcomes and results to differ materially from these statements. Risks and uncertainties include success rate of R&D projects, new regulations and rules, relations with partners in the future, etc.

This material includes information on pharmaceutical products and regenerative medicine (or related products), etc., which is being developed or launched. However, this is not intended to promote our products or provide medical advices.

こどもの力になること、こどもが力になれること

KIDS WELL, ALL WELL

Kidswell Bio Corporation