FUJIFILM
Value from Innovation

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Bio CDMO Div. & Life Sciences Business Div. Business Briefing

FUJIFILM Holdings Corporation

January 6, 2022

Today's Agenda

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1

Opening & Introduction : Organization and Mid-term Plan for Healthcare

Takatoshi Ishikawa

FUJIFILM Corporation
Director, Senior Executive Vice President, CLSO
General Manager, Bio CDMO Division

2

Bio CDMO Division

Takatoshi Ishikawa

FUJIFILM Corporation
Director, Senior Executive Vice President, CLSO
General Manager, Bio CDMO Division

3

Life Sciences Business Division

Yutaka Yamaguchi

FUJIFILM Corporation
General Manager, Life Sciences Business Division

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Healthcare / Life Sciences : New Organization (Effective on April 1, 2021)

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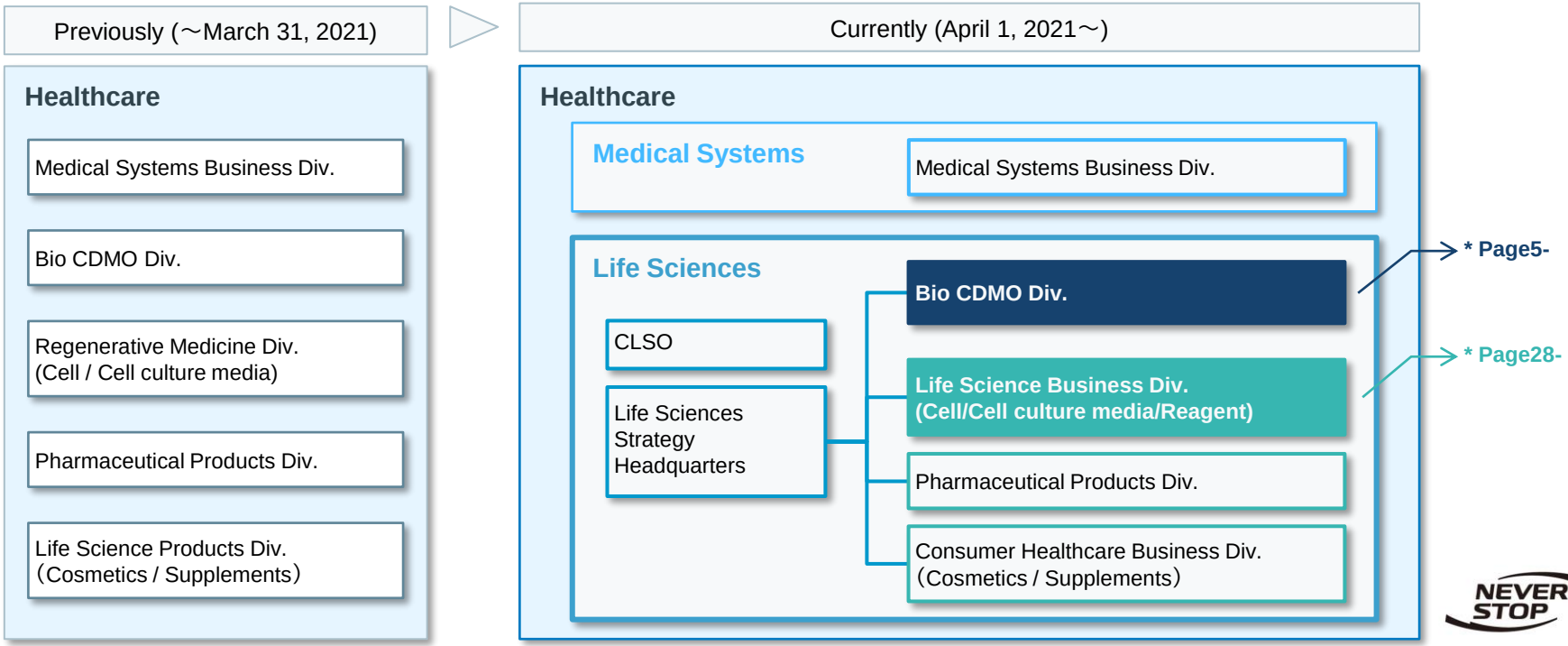
- Redefine “Healthcare” as two business groups ; “Medical Systems” and “Life Sciences”.
- Reorganize and strengthen Life Sciences businesses from a customer perspective, to prioritize Bio CDMO and drug development support businesses.

➡ **Become a leader within the life science industry, by offering value of end-to-end solutions as a company strongly supporting the creation of cutting-edge medicine.**



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Healthcare : Revenue Target for FY30

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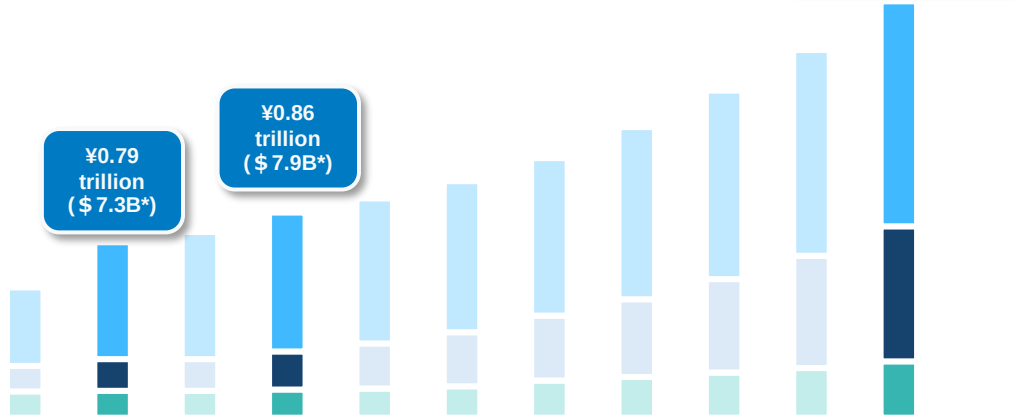
Healthcare will grow to ¥1.75 trillion in FY30.

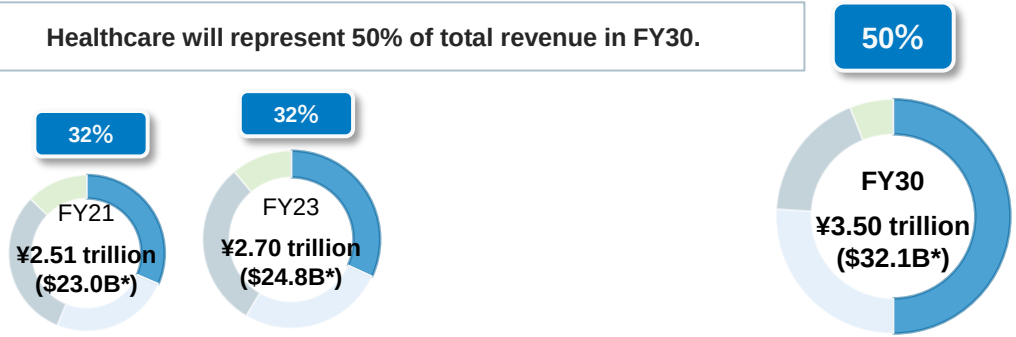


*109 yen / USD

Healthcare	FY30 Revenue	FY21-30 CAGR%
Medical Systems	¥1.00T ($9.2B*)	8%
Bio CDMO	¥0.50T ($4.6B*)	16%
Life Sciences *	¥0.25T ($2.3B*)	8%

* The total of 3 Business Divisions ;
Life Sciences, Pharmaceutical, & Consumer Healthcare.

Healthcare will represent 50% of total revenue in FY30.



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Bio CDMO Division

FUJIFILM Corporation
Director, Senior Executive Vice President, CLSO
General Manager, Bio CDMO Division
Takatoshi Ishikawa

January 6, 2022

Today's Agenda

1. Overview of Fujifilm's Bio CDMO Business

2. Outlook for Bio CDMO Business

3. Advantage of Fujifilm's Technology
   3-1 Technological Differentiation within a Wide Variety of Modalities
   3-2 Industry's First Continuous Production System from Culture to Purification

4. Summary

1-1 | Bio CDMO Market Trends

The demand for CDMOs will increase further due to conventional antibodies, progress within next gen biopharmaceuticals and increased vaccine demand.

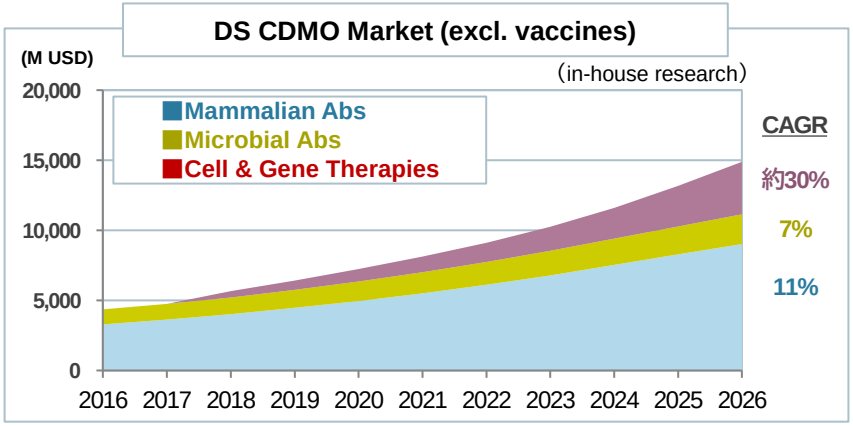
- The growth of the Bio CDMO drug substance market is accelerating further and **is expected to reach ¥1.3T by 2025 (+¥300B compared to the previous forecast, excl. vaccine demand).** The primary changes are:

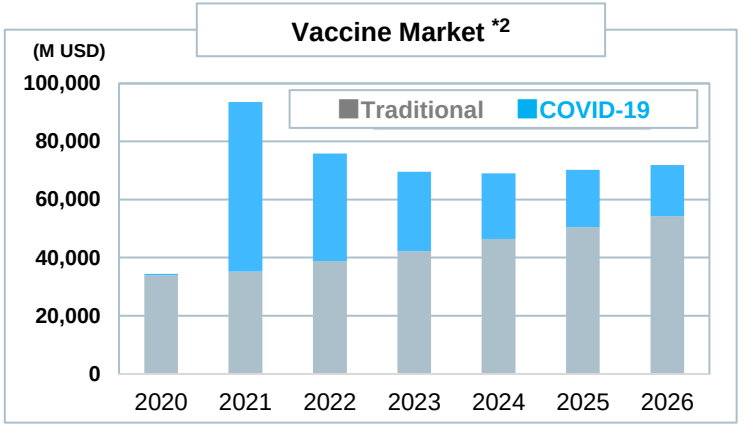
  1) Acceleration of cell & gene therapy development : The market CAGR is expected to increase to approx. 30% (+10% compared to the previous forecast). Both the commercial and clinical pipeline have increased (clinical trials in 2020: 1,220→2021: 1,320[*1]), and the market is expected to expand even further beyond 2025.

  2) Increase in demand for next gen biopharmaceuticals：The mammalian cell culture segment is expected to continue to grow at a high CAGR of 11% (+0.5% compared to the previous forecast). In addition to the strong growth of conventional antibodies, new modalities such as the highly effective ADCs (Antibody Drug Conjugates) and bispecific antibodies contribute to the growth.

- In the vaccine market, there has been a major increase in demand related to COVID-19 vaccines (2021 market size: ～¥6T[*2]). This demand is expected to continue thereby increasing pressure on the manufacturing capacity of drug substance CDMOs.

*1 Alliance for Regenerative medicine , *2 Evaluate Pharma





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Bio CDMO Div FUJIFILM Value from Innovation

Fujifilm can handle various modalities, small- to large-scale manufacturing and provide end-to-end solutions in response to the needs of its customers

(In-house market research)

				Fujifilm	Firm A	Firm B	Firm C	Firm D
Drug Substances	Bio	rProtein drugs (Microbial)		✓	✓	✓	-	✓
		rProtein vaccines (Insect cells)		✓	-	-	-	-
		Gene therapies		✓	✓	✓	-	-
		Cell therapies		✓	✓	✓	-	-
		Antibodies (mammalian)	Large Scale	✓	✓	-	✓	✓
			Small/mid Scale	✓	✓	✓	-	✓
	Hybrid	mRNA vaccines		✓ LNP* Formulation	✓	-	✓	-
	Chemical	Small molecule drugs		✓	✓	✓	-	-
Formulation				✓	✓	✓	✓	✓

*LNP : Lipid Nanoparticles

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1-3 | Global CDMO Structure

Bio CDMO Div FUJIFILM Value from Innovation

Within the Europe and U.S., Fujifilm's primary market, the strengths of individual sites are leveraged to handle process development and manufacturing of drug products from clinical to commercial stage products

*As of Jan 2022

	Billingham UK	North Carolina US	Texas US	Hillerød Denmark	New Boston US (operational)	New North Carolina US (TBO 2025)
						
Services						
Antibodies	✓	✓	✓	✓		✓
Recombinant protein	✓	✓				
Cell/gene therapies	✓		✓		✓	
Vaccines	✓	✓	✓			
Formulation			✓	✓		✓
Assembly & packaging				✓		✓

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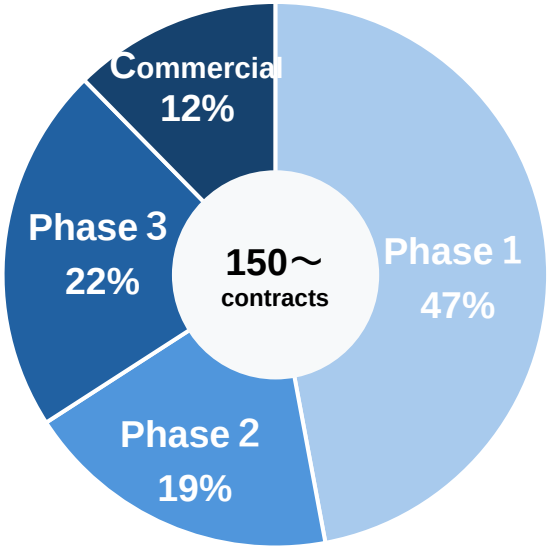
1-4 | Contract Business: Responding to Various Needs

Achieve continuous growth by contracting a large amount of early clinical stage (Phase 1, 2) projects with future potential

On-going contract work by phase (As of Jan, 2022)



Inspection History

FDA

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

ANVISA
Agência Nacional de Vigilância Sanitária

T.C. Sağlık Bakanlığı

MHRA

Pmda

Health Canada

식품의약품안전처
Ministry of Food and Drug Safety

etc.

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3. Advantage of Fujifilm's Technology
   3-1 Technological Differentiation within a Wide Variety of Modalities
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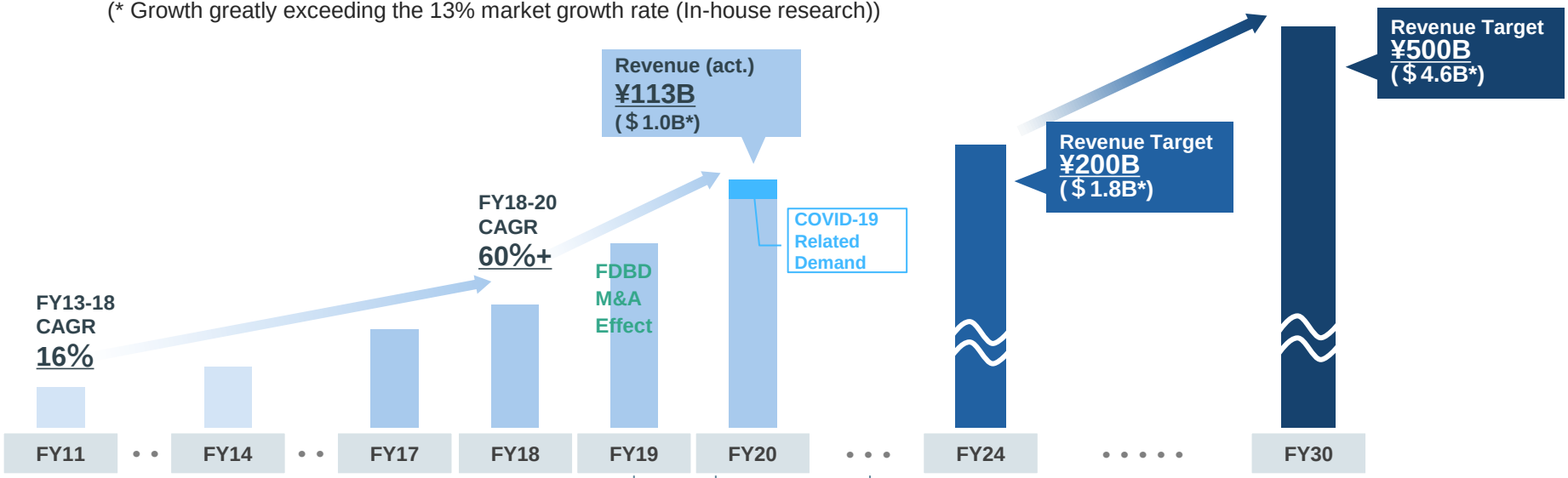
4. Summary

2-1 | Revenue : Growth Rate Exceeding that of the Market

Will expand business through active facility investments and M&A to aim for a revenue of ¥200B in 2024 and ¥500B in 2030

(* Growth greatly exceeding the 13% market growth rate (In-house research))



M&A

MSD Biologics/Diosynth (Curt.FUJIFILM Diosynth Biotechnologies)

M&A

Kalon Biotherapeutics (Curt.FUJIFILM Diosynth Biotechnologies)

M&A

Biogen (Denmark) Manufacturing ApS. (Curt.FDBD)

COVID-19-Related Demand

- Received support from the U.S. government to accelerate Covid-19 vaccine capacity expansion
- Contract development and mfg. for a therapeutic drug designated by the "COVID-19 Therapeutics Accelerator"

Capex

- Jun 2020: Announced ¥100B facility investment in Danish site (TBO 2023)
- Jan 2021: Announced investment exceeding ¥200B to establish a new site in the U.S. (TBO 2025)
- Jun 2021: Announced a total ¥90B investments in EU and U.S. site facilities

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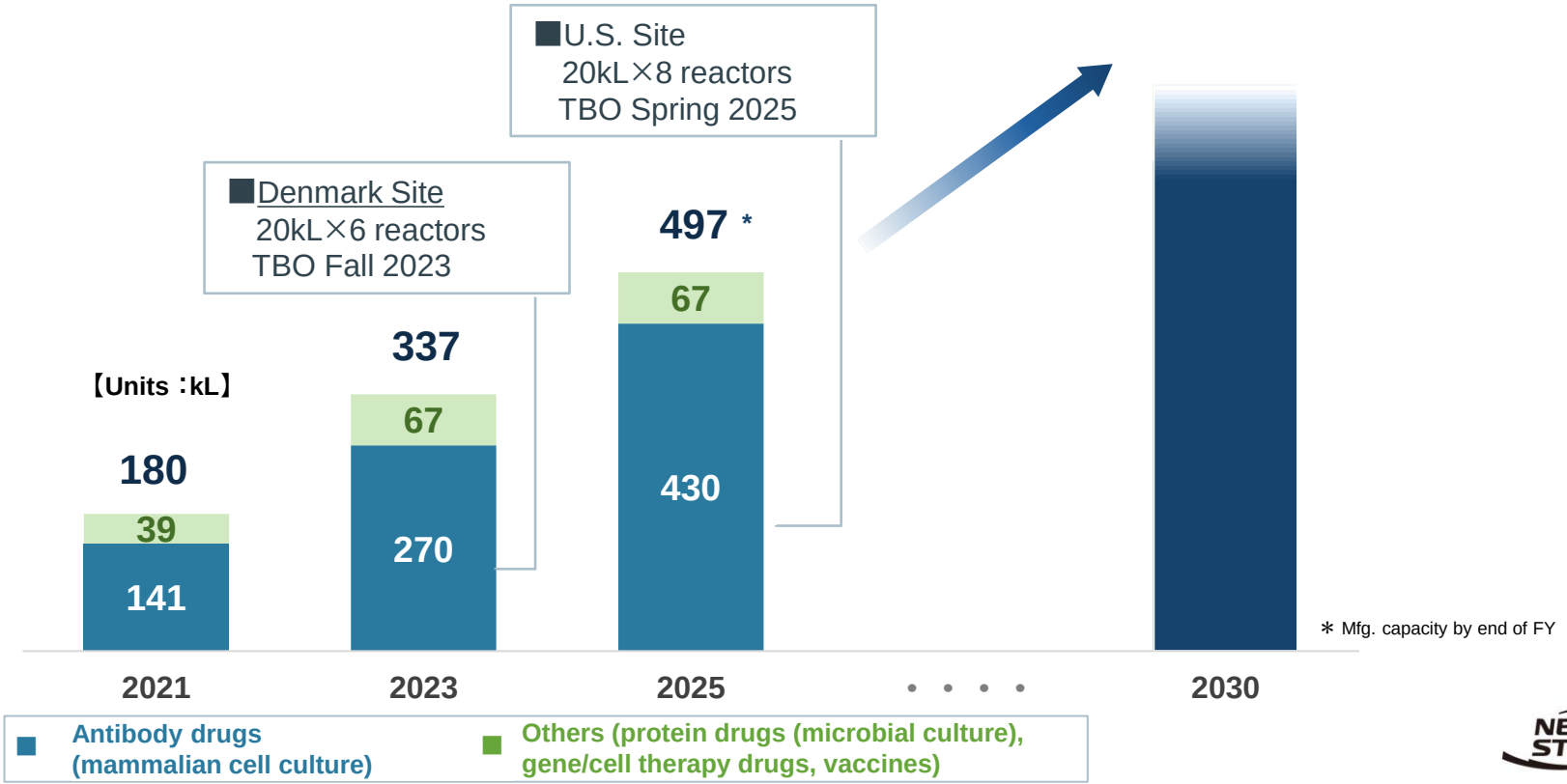
2-2 | Capex : Manufacturing Capacity Expansion Plan

Will expand manufacturing capacity for all modalities at a rate exceeding the market growth rate to achieve rapid growth



＊ Mfg. capacity by end of FY

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2-3 | Denmark Site : Capex / Capacity Expansion（Announced Jun 2020）

Bio CDMO Div FUJIFILM Value from Innovation

Large-scale expansion of drug substance, fill & finish, and packing facilities underway at Fujifilm's site in Denmark. *

* Largest scale investment in Denmark

Ttl floor area : 40,000㎡ → 60,000㎡ | Ttl tank volume : 120kL→240kL

- 20kL Bio reactors

Curt. 6 → **12** **On-going Expansion**

- New building with all-automated fill & finish system
- Expansion of assembly, labeling, packaging facilities

＊Denmark Site :
- Site area 250,000㎡ (x35 soccer fields)
  ➡ Further room for expansion
- **Aim to achieve carbon neutrality by 2025**

Time-line

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2-4 | North Carolina, U.S. : New Site（Announced Jan 2021）

New site under construction in North Carolina with 20,000 x 8 bio reactors, fill & finish and packaging capabilities. Set to become the largest* bio CDMO site in Northern America.

- 20kℓ Bio reactors

8 Under construction ⟶ Maximum **32** Can be expanded

- All-Automated fill & finish system
- Assembly, labelling, packaging

＊New NC, U.S. Site :
- Site area 610k㎡ (x85 soccer fields)
  ➡ The largest* bio CDMO site in Northern America
- **Plan to use 100% electricity from renewable sources**


Upon Completion

Time-line

2021	2022	2023	2024	2025

Oct 2021 Groundbreaking ceremony

Spring 2025 Operation start


Groundbreaking Ceremony *

*Viewed by +10,000 people on social media

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2-5 | Reduction of Environmental Burden via Local Production

Fujifilm aims to reduce the environmental burden of the pharmaceutical supply chain by promoting “local production for local consumption”.

Relative amount of CO2 emitted (In-house simulation*)

* [Premise] Relative CO2 emissions before reaching patients when mfg. the same amount of the same drug for the U.S. market

All made in the U.S.

Annual emissions 5,000t-CO2

Production (80%renewable energy)	Cold storage, land
DS→F&F→AL&P	Transport all over the U.S.
4,000t-CO_2	1,000t-CO_2

DS : Drug substance
F&F : fill & finish
AL&P : Assembly, Labeling, Packaging

Made in Denmark, + Exported to the U.S.

Annual emissions 47,000t-CO2

Production (80% renewable energy)	Cold storage, air	Cold storage, land
DS→F&F→AL&P	Denmark→U.S.	Transport all over the U.S.
4,000t-CO_2	42,000t-CO_2	1,000t-CO_2

➡ **Significant amount of CO2 emissions when manufacturing products for the U.S. within the EU due to the need for cold storage and air transport**

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Bio CDMO Div FUJIFILM Value from Innovation

Industry-leading productivity for all modalities

(in-house research)

			Fujifilm	Competitors
Antibodies (Mammalian)	Productivity	mAb	**>10g/L** Apollo™ ADVANCED MAMMALIAN EXPRESSION	3～8g/L
		BiAb*	**～5g/L**	1～2g/L
	Cell line development (Process development)		**10 weeks (34 weeks)**	12～18 weeks (40～48 weeks)
rProtein (Microbial)	Productivity		**>15g/L** pAVEway™ ADVANCED PROTEIN EXPRESSION	>15g/L
	Cell line development		**4 weeks**	6～8 weeks
Gene therapy	Productivity		**3x past results (1.0×10^{11}vg/mL)**	-

*BiAb: bispecific antibodies

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3-1-2 | High-Productivity for Bispecific Antibodies

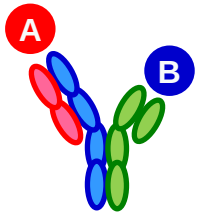
Fujifilm has begun contract manufacturing of bispecific antibodies and using proprietary plasmid transfection technology has resulted in the creation of a cell line with industry-leading productivity (~5g/L) *

(*Announced at the "Antibody Engineering & Therapeutics" conference on Dec. 15th, 2021)

What is Bispecific Abs?

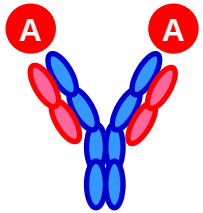
・Bispecific Abs

(Binds to two different antigens)

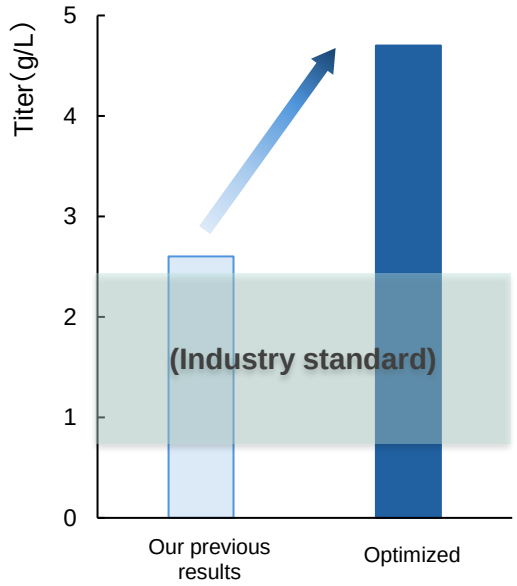


・Traditional Abs

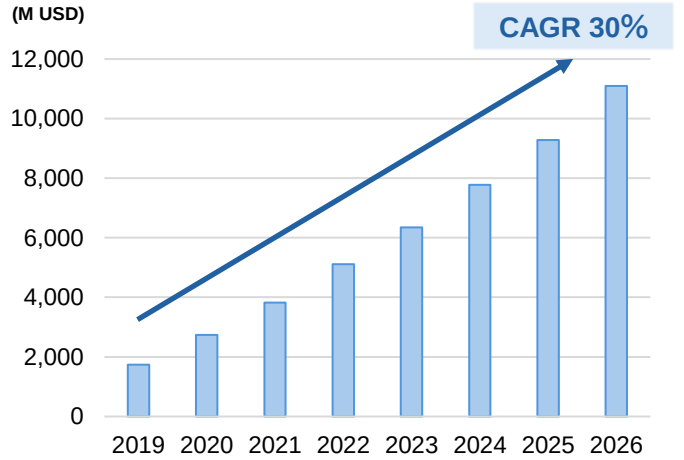
(Binds to one antigen)



Bispecific Abs results



Bispecific Abs market size



*Source：Evaluate Pharma

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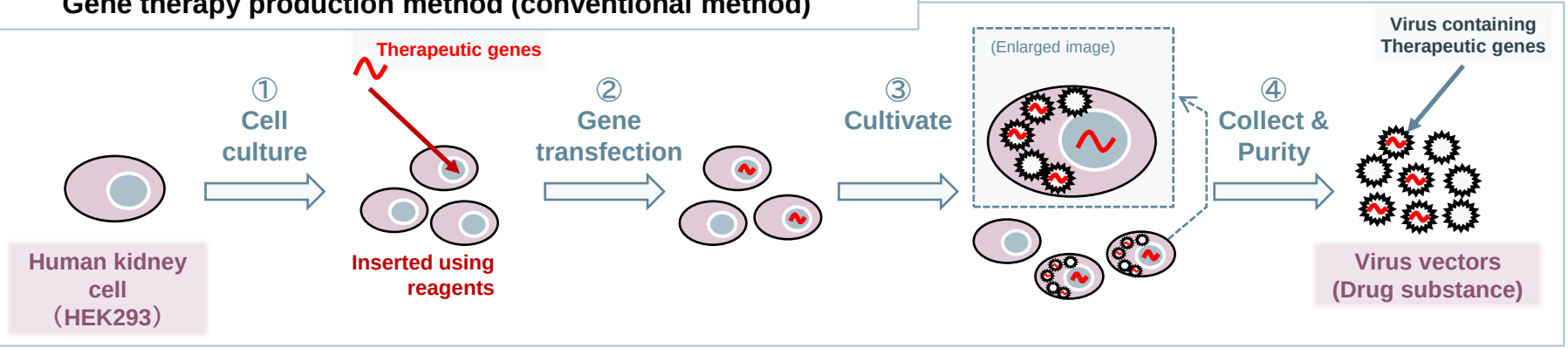
Bio CDMO Div FUJIFILM Value from Innovation

Fujifilm has, as a CDMO, established its own original manufacturing process thereby tripling drug substance productivity* through process technology, nano particle control technology and AI analysis.

(*In-house research)

Gene therapy production method (conventional method)



Industry issues	Human kidney cells clump together easily making high-titer cell culture difficult	Low efficiency for transfer of genes into cells with conventional methods	Difficult to accurately analyze whether the target genes are inside cells
Fujifilm's technology	**Manufacturing process optimization (e.g. timing of media change)**	**Optimized gene transfection reagent using nano particle technology**	**Established evaluation technology for confirming whether target genes are inside cells**

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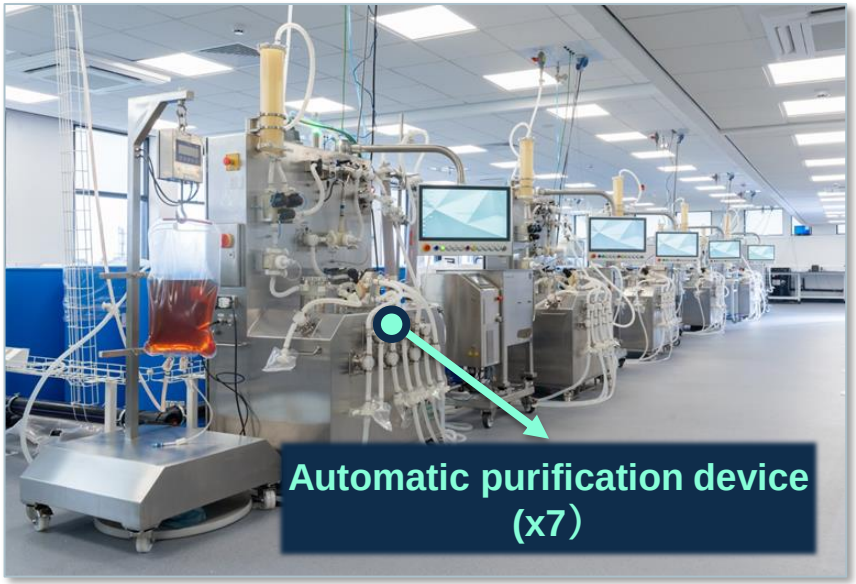
4. Summary

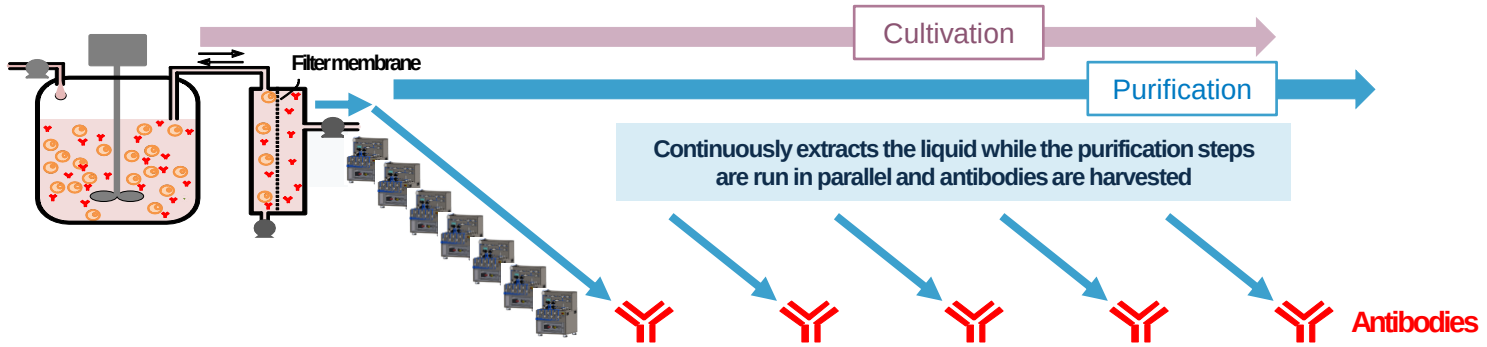
Have developed the world's first 500L scale continuous manufacturing facility and have gathered empirical evidence. Have also developed original media for each piece of equipment.

500L scale testing

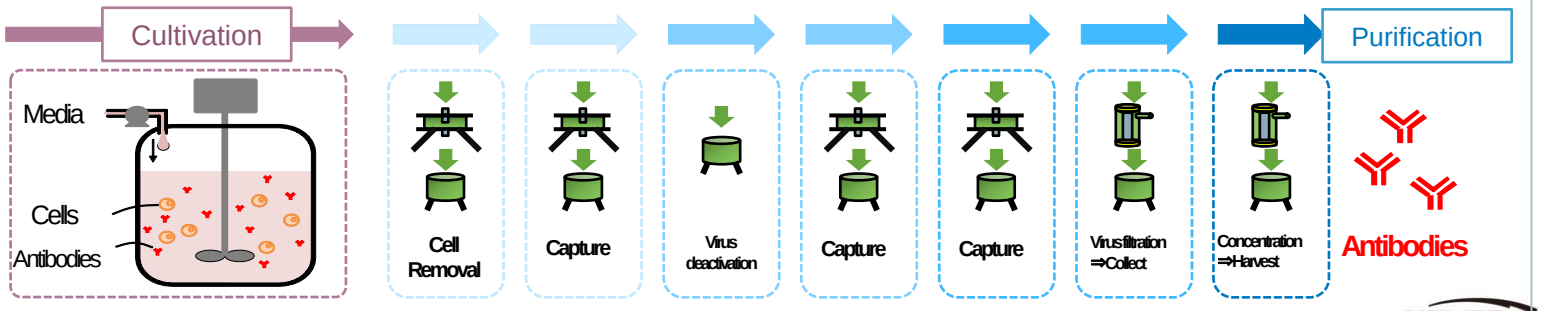


Continuously extracts the liquid while the purification steps are run in parallel and antibodies are harvested

Continuous Manufacturing



Batch Manufacturing (Standard)



Extract the liquid after finishing cultivation → Each purification step is carried out one batch at a time

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Set to begin GMP operation from 2023 and are currently having discussions with several clients

	Features of Fujifilm's Continuous Manufacturing	Batch Production
Quality	• **Ability to achieve high purity** compared to batch production • **Enables manufacturing of unstable** antibodies that are difficult to produce with batch production.	• Unstable antibodies are hard to manufacture
Production capacity	• By adjusting the production time **small to large scale lots can be made at the same facility**	• Different facilities needed for different lot sizes
Facility investment Mfg. cost	• **Takes up 25-75% less space** compared to batch production • **Facility investment amount is likewise reduced by 25-75%** • **25% reduction in manufacturing costs(In-house research)**	• Need to invest in bio reactors depending on the amount to be manufactured
Technology	• Systems for automatic titer control and continuous monitoring of culture conditions are necessary (development complete) • **The automatic continuous manufacturing device** also needs an automatic control system (development complete)	-
Culture media	• Media optimized for continuous manufacturing is necessary and **Fujifilm has developed a high-quality media** for this purpose.	-

(*Automatic continuous purification device and monitoring technology can also be used for batch production.)

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4. Summary

1 Strengthen offering for various modalities

→ Especially for next gen therapies (e.g. ADCs and cell therapies)

2 Pursue high productivity for each modality

→ Strive to become the industry leader not only within Antibody drugs and recombinant protein drugs, but also cell and gene therapies.

3 Continue timely facility investments

→ Currently considering a hybrid facility investment of batch and continuous manufacturing.

4 Environmental awareness

→ Localization of production with U.S. site and use of renewable energy to reduce the environmental burden.

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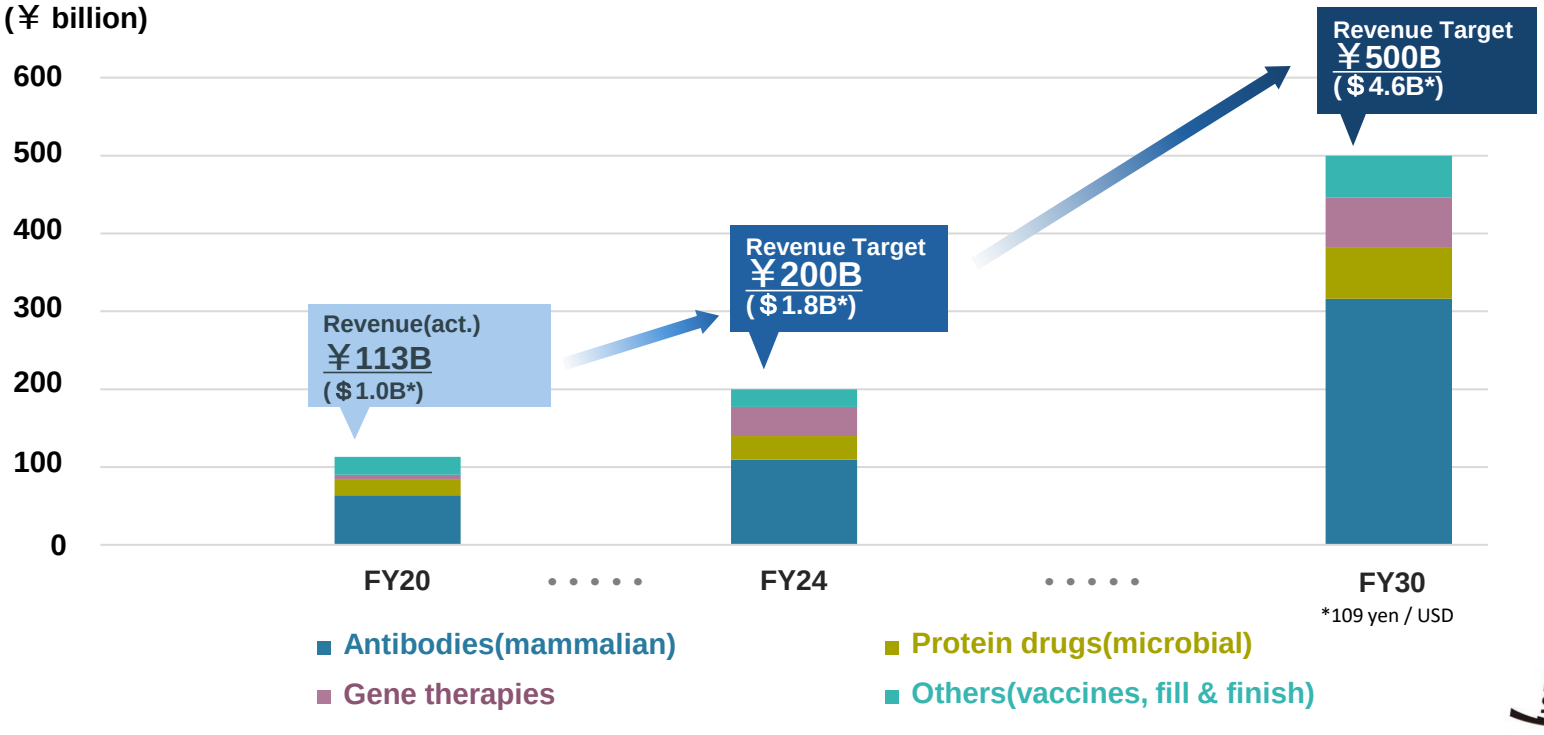
4-2 | Bio CDMO Growth Targets

Bio CDMO Div FUJIFILM Value from Innovation

Developing industry leading technology and increasing manufacturing capacity allows us to aim for an annual revenue of ¥200B in 2024 and ¥500B in 2030



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Life Sciences Business Division

FUJIFILM Corporation
General Manager, Life Sciences Business Division
Yutaka Yamaguchi

January 6, 2022

Presenter Profile

April 1990	Joined Fuji Photo Film Co., Ltd. and assigned to the Exportation Division
March 1994	Fuji Photo Film Singapore Office
July 2007	FUJIFILM Electronic Imaging Europe GmbH
April 2014	GM, Life Science Products Division (current Consumer Healthcare Business Division)
May 2018	FUJIFILM Holdings America Corporation, **GM, Life Science Strategic Business Office(current position)**
June 2018	**FUJIFILM Irvine Scientific Inc. CEO (current position)**
April 2021	**GM, Life Sciences Business Division (current position)** Director, The Forum for Innovative Regenerative Medicine (FIRM)

Today's Agenda

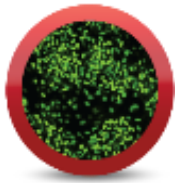
1. Positioning and Locations of Fujifilm's Life Sciences Business
2. Drug Discovery & Manufacturing Support
3. Cell Therapy Process Development & Manufacturing Service
4. Summary

1-1 | Business Area of Life Sciences Business Division

Handling R&D and production of innovative drugs, and offering solutions in the field of cell therapies to contribute to addressing unmet medical needs

Drug Discovery & Manufacturing Support

- Supplying **cells** (e.g. human iPSCs for drug discovery), **culture media, reagents and related products** to contribute to **discovery research and production of new innovative drugs.**
- Cell culture media has grown rapidly due to increased demand for use in the manufacturing of biopharmaceuticals including COVID-19 vaccines and therapeutics.



iPSCs

Cell culture media

Reagents

Cell Therapy Process Development & Manufacturing Service

- **Promoting efficient R&D**, with **a focus on FCDI's* iPSCs**, through Fujifilm group-wide synergy of unique engineering technologies /resources, and alliance with partners.

  * FCDI : Fujifilm Cellular Dynamics, Inc

- Using Fujifilm Group companies' technological resources and facilities as a platform for **promoting the process development and manufacturing business for cell therapy products.**

GMP facility : i-FACT
(Madison, Wisconsin, USA)

i-FACT
Innovation Facility for Advanced Cell Therapy

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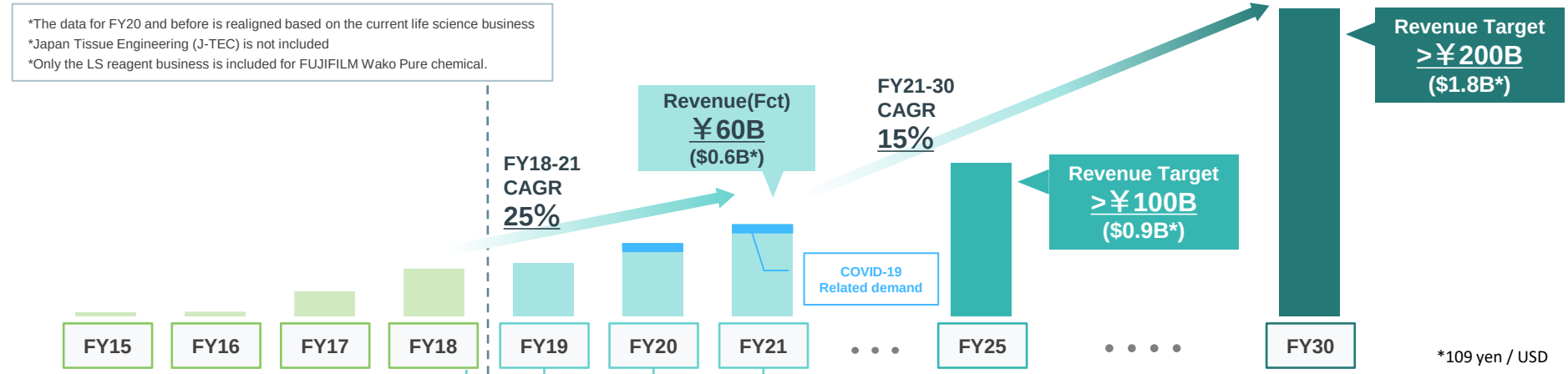
1-2 | Start-up and Expansion of Life Science Business

Aim to reach ￥200B in FY2030 by implementing strategic measures one after another since 2018 upon acquisition of three major companies

*The data for FY20 and before is realigned based on the current life science business
*Japan Tissue Engineering (J-TEC) is not included
*Only the LS reagent business is included for FUJIFILM Wako Pure chemical.



*109 yen / USD

M&A
- **Cellular Dynamics → Entry into iPSC biz**
  (current Fujifilm Cellular Dynamics | FCDI)

- Establishment of Opsis Therapeutics
  → Developing allogeneic iPSC-based treatment for retinal diseases

M&A Wako Pure Chemical
→ Entry into culture media & reagents biz
(current Fujifilm Wako Pure Chemical | FFWK)

M&A Irvine Scientific and the other
→ Culture media biz expansion
(current Fujifilm Irvine Scientific | FISI)

- Establishment of the Bio Science & Engineering Laboratories in Japan
- Establishment of a marketing base in Boston, U.S.
- Establishment of Century Therapeutics with VC, Versant Ventures (U.S.)

- Establishment of the Bio Science & Engineering Laboratories in the U.S.

- Start of sales collaboration between FISI and FCDI for iPSCs

- Strategic partnership with BlueRock Therapeutics for R&D of iPSC-based treatment for eye diseases
- Century Therapeutics went public on NASDAQ

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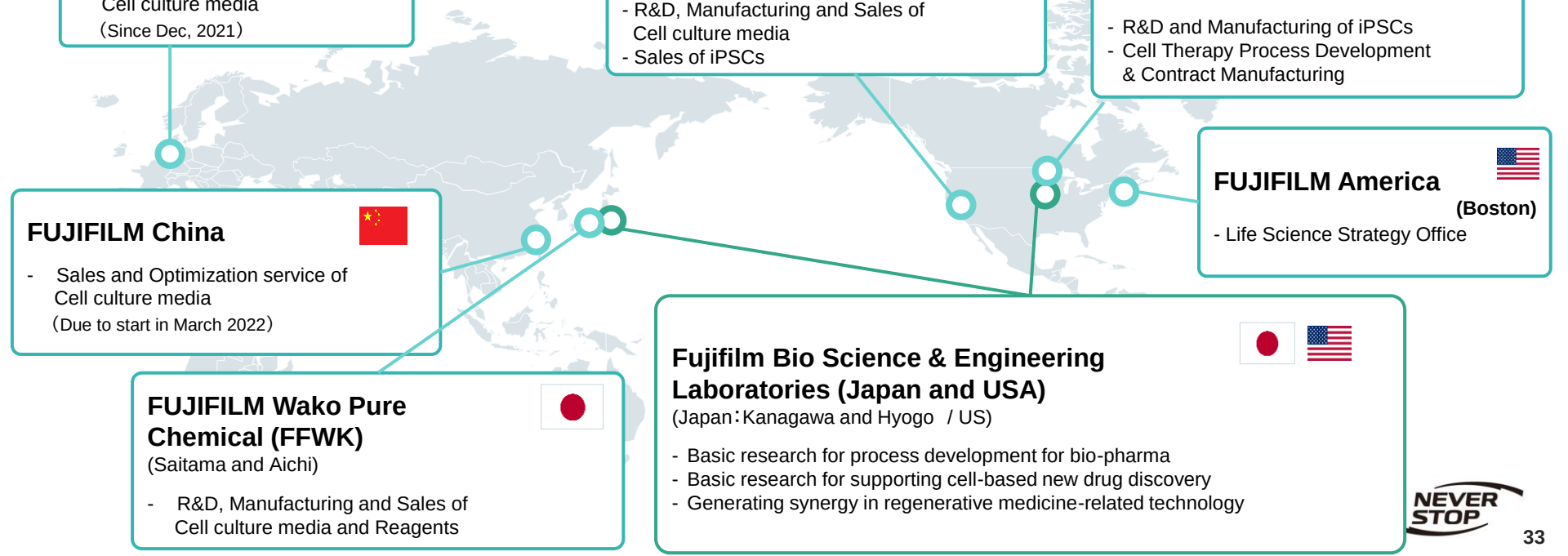
1-3 | Global Network

Generating synergy between Group companies, using the strength of having a wide range of technologies associated with cells, cell culture media and reagents



FUJIFILM Europe

- Manufacturing and Sales of Cell culture media
  (Since Dec, 2021)

FUJIFILM Irvine Scientific (FISI)

- R&D, Manufacturing and Sales of Cell culture media
- Sales of iPSCs

FUJIFILM Cellular Dynamics (FCDI)

- R&D and Manufacturing of iPSCs
- Cell Therapy Process Development & Contract Manufacturing

FUJIFILM America

(Boston)

- Life Science Strategy Office

FUJIFILM China

- Sales and Optimization service of Cell culture media
  (Due to start in March 2022)

FUJIFILM Wako Pure Chemical (FFWK)

(Saitama and Aichi)

- R&D, Manufacturing and Sales of Cell culture media and Reagents

Fujifilm Bio Science & Engineering Laboratories (Japan and USA)

(Japan：Kanagawa and Hyogo / US)

- Basic research for process development for bio-pharma
- Basic research for supporting cell-based new drug discovery
- Generating synergy in regenerative medicine-related technology

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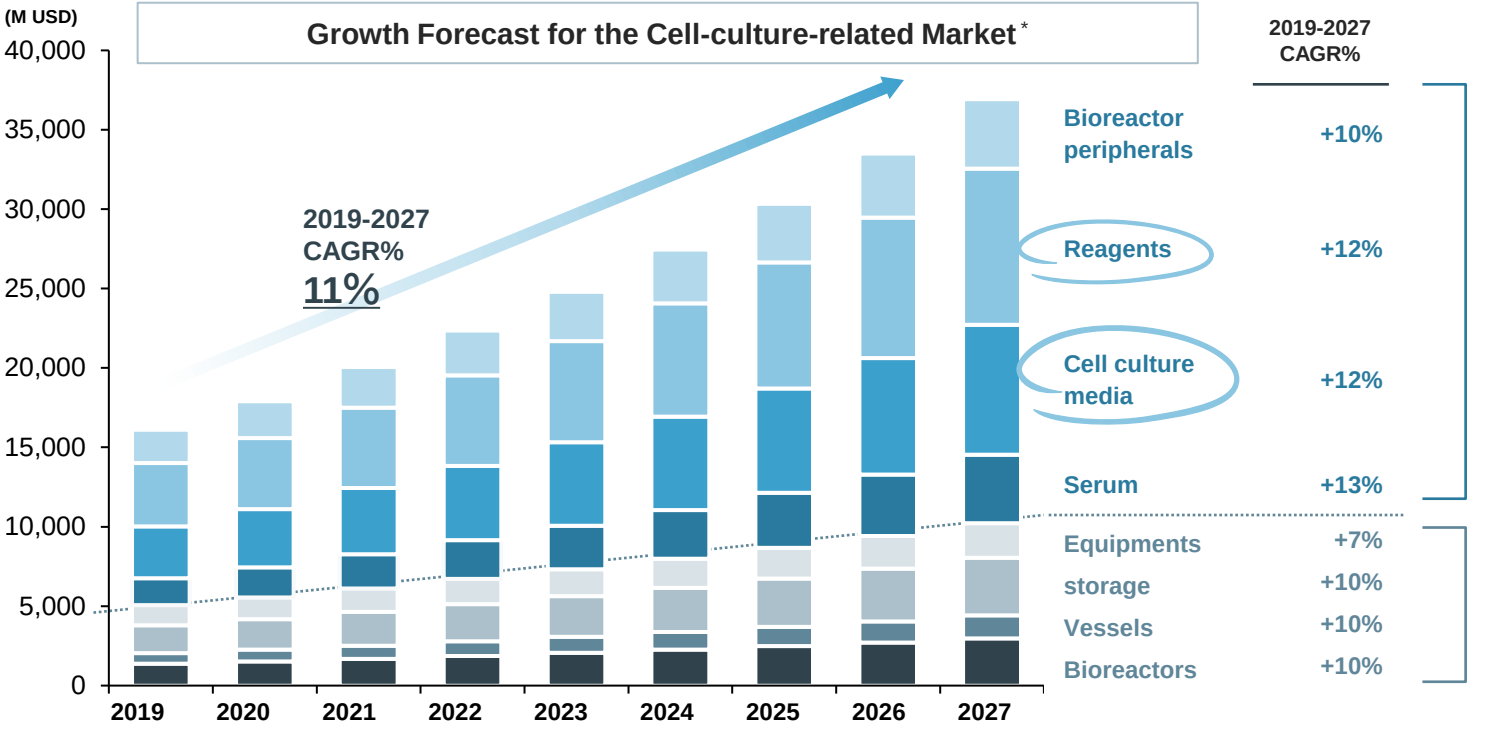
Today's Agenda

1. Positioning and Locations of Fujifilm's Life Sciences Business
2. **Drug Discovery & Manufacturing Support**
3. Cell Therapy Process Development & Manufacturing Service
4. Summary

2-1 | Outlook on the Cell-culture-related Market

Life Science Biz Div FUJIFILM Value from Innovation

The cell culture-related market is predicted to grow from $16.1B in 2019 to $36.9B in 2027 (CAGR+11%). Consumables such as cell culture media and reagents, which represent Fujifilm's main business category, account for 70% of the market.



*Source: In-house research based on the report of "Allied Market Research (published in December 2020)"

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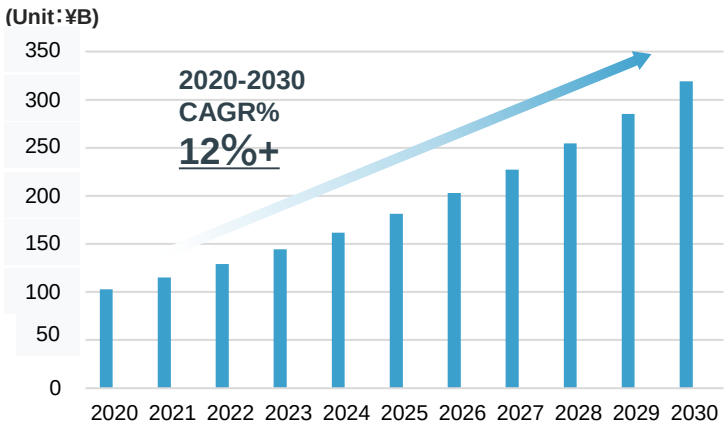
2-2 | Cell Culture Media : Global market of BP media

Bioproduction media Fujifilm is focusing on is the growing market with CAGR +12%.
Fujifilm will be a market leader for BP Media holding >30% market share with ¥100B sales by 2030.

BP Media : Global Market Outlook

- Total demand of serum-free culture media* for bioproduction (BP), a focus area for Fujifilm, is expected to grow at the rate of CAGR+12%.

*Serum-free culture media:
Serum-free culture media is formulated to mitigate risks from the use of undefined and highly-variable serum products. For this reason, serum-free culture media are widely used for commercial production for biomedicine."

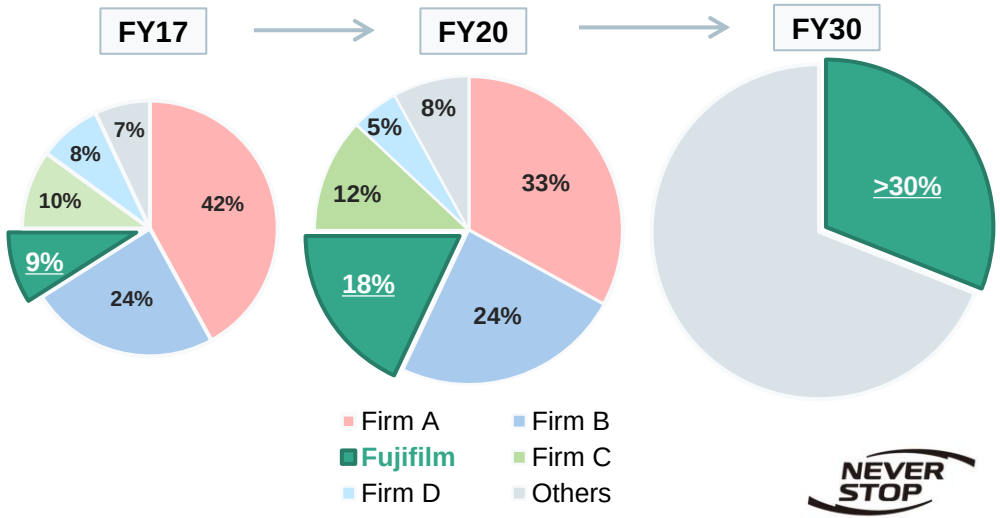


Source:Market Research Report(Nov,2020)
By MarketsandMarkets Research Private Ltd

BP Media : Market Share Outlook

(In-house research)

- Following the acquisition of FISI in 2018, Fujifilm has doubled its market share and increased sales by 4 times (over CAGR+50%).
- **The goal is to hit ¥100B in revenue by FY2030.**



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2-3 | Cell Culture Media : Fujifilm's Strengths

Coordinating departments to provide powerful customer support to trade with 15 out of the world's top 20 pharmaceutical companies

R&D

- More than 50 years of cell culture media **expertise** and an advanced media portfolio.
- **Ability to provide solutions** by conducting quick testing at FCDI・FDB and optimizing through "cells / culture media / culture processes".
- Applying **the state-of-the-art technology** in powder and liquid process, developed **through the photo film business.**

Manufacturing

- **Using GMP-compliant manufacturing facilities** to produce high-quality culture media.
- **Products-supply from a global production framework** consisting of sites in Japan, EU and USA.
- Using advanced analysis technology, etc. for **Quality Control & Quality Assurance**.

Sales & Operation

- Deploying **an enhanced product line-up** including culture media for broad-based applications, buffers and sterile water for injection.
- Robust global sales networks, combined with **sales teams with outstanding expertise.**

Handling processes from development to manufacturing and quality assurance swiftly to supply high-quality products in a timely fashion

Identifying customer needs accurately and providing it to R&D as feedback

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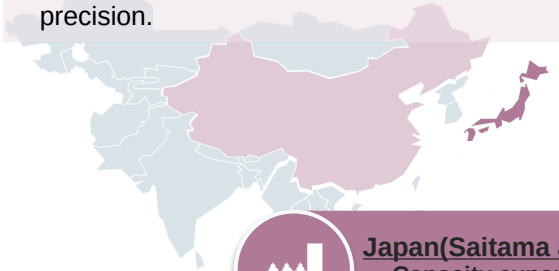
2-4-1 | Cell Culture Media : Strategic Investment(US, Japan, China)

Cumulative capex of ¥11B ($100M*) since acquiring FISI increased production capacity by 5 times.
- **Capacity expansion (US, Japan) and establishment of customize service site (China) were decided in FY21.**
- **Investments will continue into FY2022 and beyond.**

*109 yen / USD

China(Suzhou)
Establishment of Bioprocessing Innovation and Collaboration Center

- Automated cell culture systems and analyzers to examine quantity and quality of cells to carry out cell culture optimization at high precision.

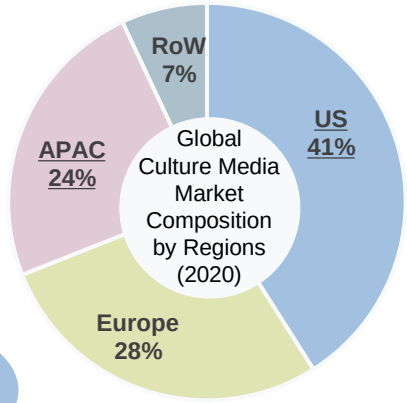


Japan(Saitama and Aichi)
Capacity expansion for cell culture media

- Saitama plant : Expand material storage space and reinforce production workforce to strengthen the production capacity for powder media.
- Aichi plant : Invest in facilities to strengthen the supply of process solutions for vaccine production.

US(Irvine, CA)
Capacity expansion for cell culture media

- High-volume production machines and expansion of a warehouse.
- Expand Quality System department's offices / laboratories and the functions of the flexible small-scale media production service(Express Media Service; EMS) department.
- Expand refrigerated / freezer warehouses to triple storage capacity.



(In-house research)

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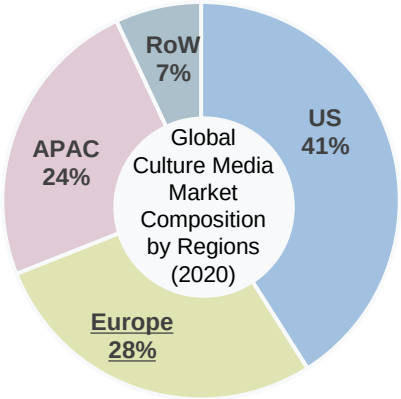
2-4-2 | Cell Culture Media : Strategic Investment（Europe）

Set within FUJIFILM Manufacturing Europe B.V. the world-class cell culture media facility acting as a hub for the European market.
Enhance global production structure with modern manufacturing sites in Japan, the US and Europe.

Netherlands(Tilburg)
Operation commencement
(Dec 2021)

- Overview of the new facility
- Total floor space：13,500㎡ (145,300ft^2)
- Production Capacity：Dry powder media 320t/yr, Liquid media 470kl/yr
- **Diverted** the existing photographic film plant with high-precision manufacturing experience in Netherlands to culture media plant
- **Carbon neutrality by the end of FY2022**



(In-house research)

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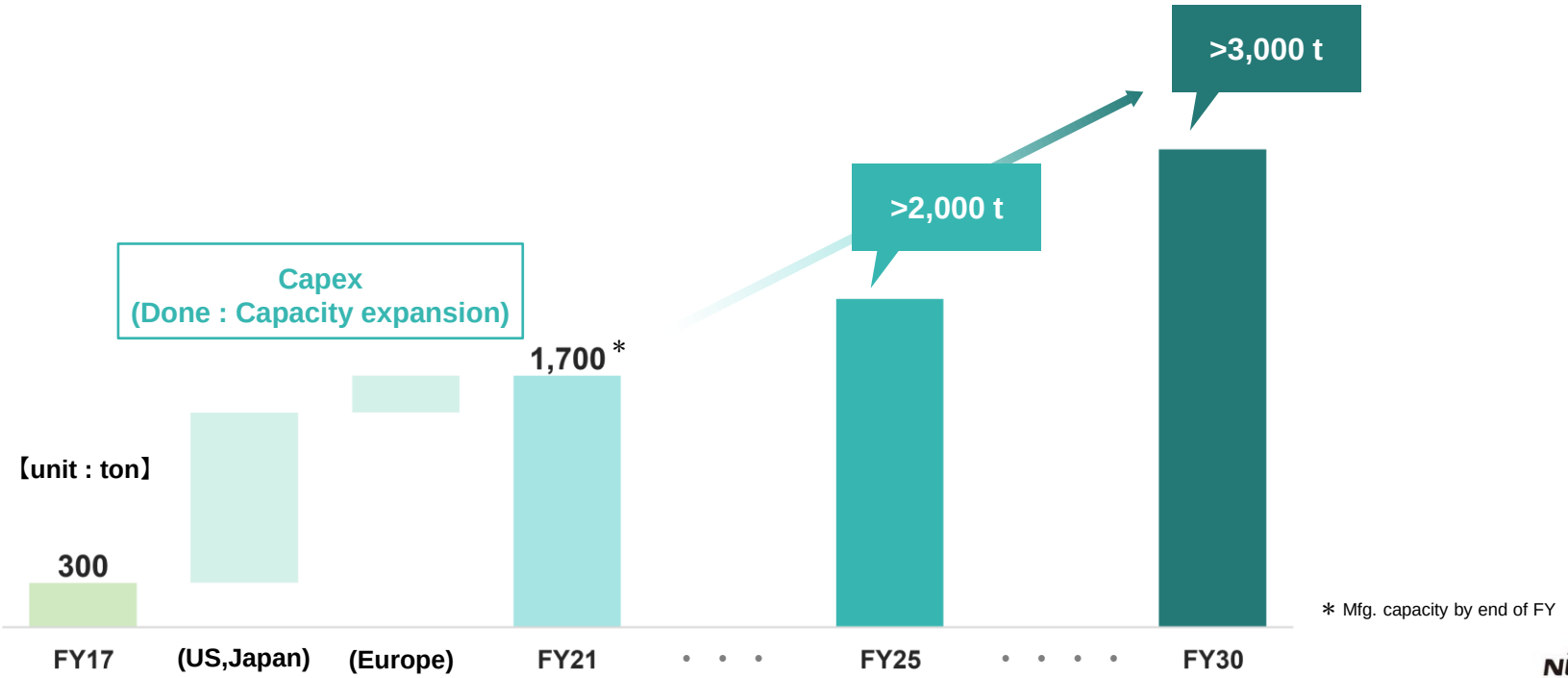
2-5 | Cell Culture Media : Prod. Capacity Expansion Plan (Powder Media)

FUJIFILM
Value from Innovation

Life Science Biz Div

Continuous capex worldwide will rise the production capacity in 2030 tenfold compared to FY17 (acquisition of FISI) .



* Mfg. capacity by end of FY

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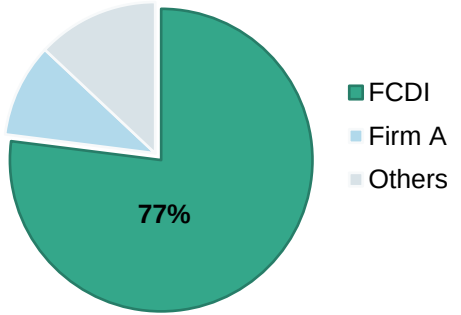
2-6 | Cells/Culture media/Reagents：Business Expansion Strategy

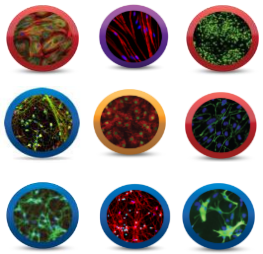
Take advantage of cells, culture media and reagents
to support drug discovery activities by pharmaceutical companies and academia
Engage in drug development projects with customers from an early stage as a “best partner”

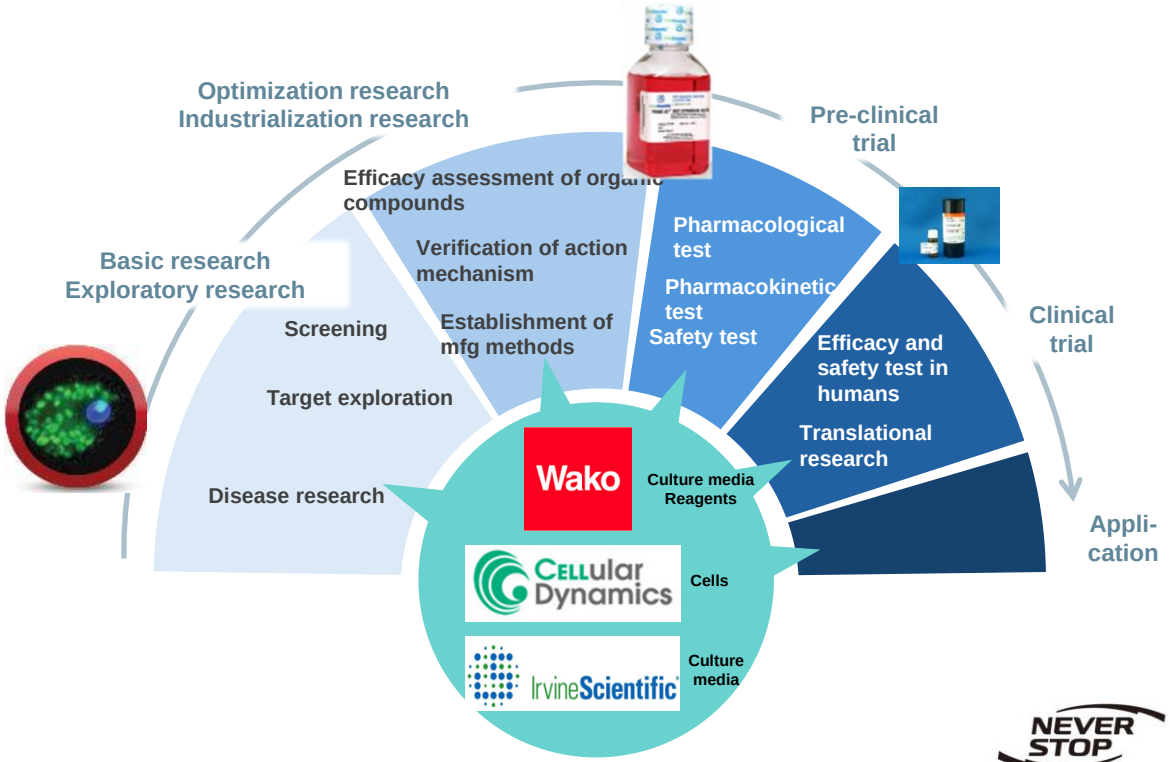
Global share in iPSC products

(*In-house research)
(Market share of human iPSC derived cells purchased from outside sources)



FCDI has a variety of iPSCs such as Cardiac and Neural cells.





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Today's Agenda

1. Positioning and Locations of Fujifilm's Life Sciences Business
2. Drug Discovery & Manufacturing Support
3. **Cell Therapy Process Development & Manufacturing Service**
4. Summary

3-1 | Outlook for Regenerative Medicine and Cell Therapies

Cell therapy market has high future growth potential of CAGR 30%+
In US, Investment to biotech companies dedicating to the development of iPSC derived Cell therapies is becoming active, resulting in over ￥1T investment.

- **Outlook of the Global Cell Therapy Market (w/ ex-vivo gene therapies)**

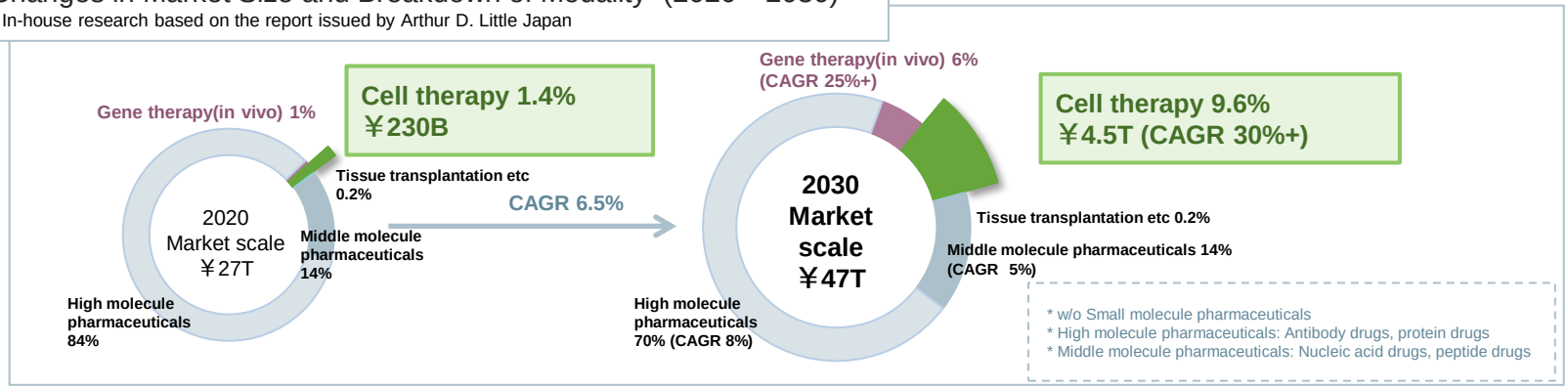
  1) Market size will expand through the shift of categories from autologous to allogeneic, and from somatic / somatic stem cells to iPS cells / ES cells

  2) ¥230B in 2020 → ¥4.5T in 2030* (CAGR +30%+)

* Source: BB Bridge "FY2020 / Current status and future outlook of cell pharmaceutical development in the world

Changes in Market Size and Breakdown of Modality (2020→2030)*

* In-house research based on the report issued by Arthur D. Little Japan



- Corporate values dedicating to the development of iPSC derived Cell therapies are exceeding ￥100B*.

* Financial data is as of Dec 2021.

- Fate Therapeutics (Developing iPSC derived CAR-T/NK products, Market cap: >¥600B)
- Sana Biotechnology (Successful IPO in Feb 2021. Market cap: >¥300B)
- BlueRock Therapeutics (Wholly acquired by Bayer in 2019. Implied total company value: approx. ￥100B)
- Century Therapeutics (Successful IPO in Jun 2021. Market cap: approx.￥100B)

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3-2 | Cell Therapy PD&Mfg Service: Business Model

Establish the Recurring-type of business which enable to achieve sustainable growth by the combination of "Grant of IP license for iPSCs related" and "Process development & manufacturing service utilizing GMP facility (i-FACT)".

Cellular Dynamics

Grant of IP license for iPSCs related	・Reprogramming ・Differentiation	**"Recurring revenue" of up-front, milestone and royalties from licensees**
Establishment of technologies for cells	・Cell culture expansion on GMP facility ・High quality cell lines	**Establishment of technologies involved**
Investment into cell therapeutic firms	・Strategic alliance ・Contract development and manufacturing	**Strengthening of relations with partners**

Business expansion by contract service of process development and manufacturing

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3-3 | Cell Therapy PD&Mfg Service: Investment & Alliance

Contract service and Capital gain from investees

CENTURY THERAPEUTICS

- FCDI invested in Century Therapeutics (found in 2018) to have a contract service for **development and Manufacturing of iPSC-used next-generation immune oncology treatments**.

* Gain on equiry securities resulting from IPO was posted in June 2021.

cynata therapeutics

- FCDI executed a manufacturing services agreement with Cynata Therapeutics in December 2021 for **the manufacture and supply of Cynata's mesenchymal stem cell ("MSC") products treating GvHD**.

* GvHD (Graft versus Host Disease) A general term for a symptom that occurs as a result of the white blood cells present in the organ of a donor recognizing the recipient's body cells as foreign and attacking them.

Strategic alliance for the development of a in-house pipeline

BlueRock THERAPEUTICS

- **A strategic R&D alliance agreement** was reached with BlueRock Therapeutics LP regarding iPS cell therapies for ocular diseases.
- An upfront payment of US$30 million has been received and up to US$40 million funding for R&D and part of clinical manufacturing is planned to be received for the development of the three retinal disease therapy programs.
- FCDI will also receive milestone payments as development and sales progress, and commercial sales royalty (around 10%).

GMP Facility "i-FACT"

i-FACT

Innovation Facility for Advanced Cell Therapy

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Today's Agenda

1. Positioning and Locations of Fujifilm's Life Sciences Business
2. Drug Discovery & Manufacturing Support
3. Cell Therapy Process Development & Manufacturing Service
4. **Summary**

1 Strengthen Drug Discovery & Manufacturing Support

→ Provide pharma companies and academia with “the solution in the combination of cells, culture media, and reagents” leveraging the expansion of the utilization for the drug discovery screening and pharmacological test by human iPSCs.

2 Dramatic growth of cell culture media business

→ Establish the global production structure in Japan, US and Europe though continuous Capex.
→ Aim to become a market leader of serum-free culture media for bioproduction (BP) holding 30% share in 2030 by developing customized culture media responding to customers' various needs.

3 Expand Cell therapy PD & Mfg Service Business

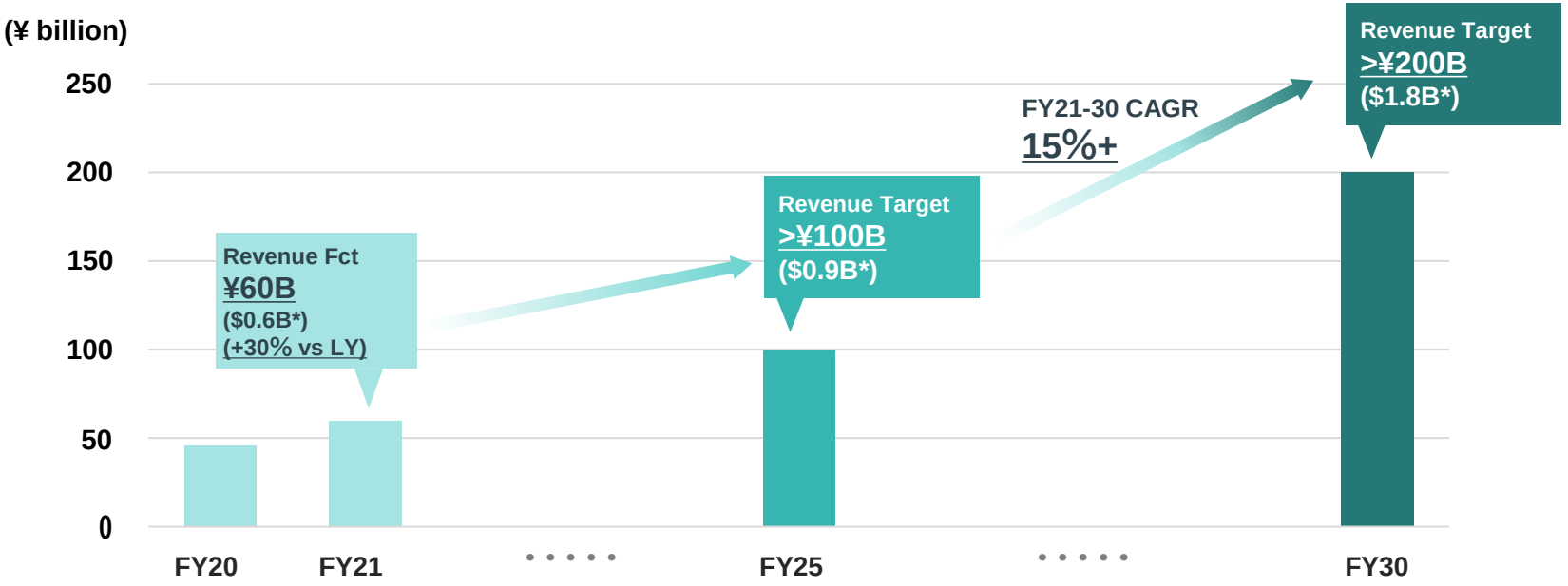
→ Establish the Recurring-type of business which enable to achieve sustainable growth by “Grant of IP license for iPSCs related” and “Process development & manufacturing service utilizing GMP facility(i-FACT)”.

4 Environmental awareness

→ Localization of production with 3 sites (U.S., Japan, and Europe) and use of renewable energy to reduce the environmental burden.

4-2 | Life Science Business Div. Growth Targets

Aim to reach >¥100B sales in FY25 and >¥200B in FY30 (CAGR 15%+) with BP media as the driving force.



*109 yen / USD

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FUJIFILM

Value from Innovation

Appendix1：Keywords for business understanding

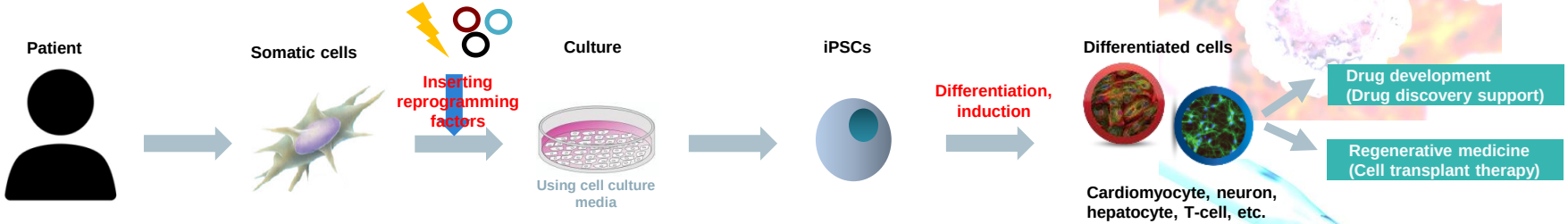
Cell Culture Media

- Liquid or solid materials that contain nutrients, to be used for culturing microorganisms and cells.
- Culture media consist of basal media (including amino acids, sugars, lipids, vitamins, and salts) and additives (serum or serum-equivalents, some growth factors, etc.).

iPS Cells

(iPS＝induced pluripotent stem)

- iPSC stands for induced pluripotent stem cell, produced by introducing a small number of genes known as reprogramming factors to human skin tissues and blood-derived somatic cells to give the ability to differentiate into various tissues and organ cells and the ability to propagate almost indefinitely.



Reagents

- Reagent refers to a chemical used for testing and research and defined as a “chemical substance used for the detection or qualification of a substance by a chemical process, or for the experimental synthesis of a substance, or for the measurement of the physical characteristics of a substance” (Act on the Evaluation of Chemical Substances and Regulation of Their Manufacturers).
- There are reagents for biochemical research, reagents for genetic engineering research and life-science reagents such as those for immune research.

Appendix2 : What are Cell culture media?

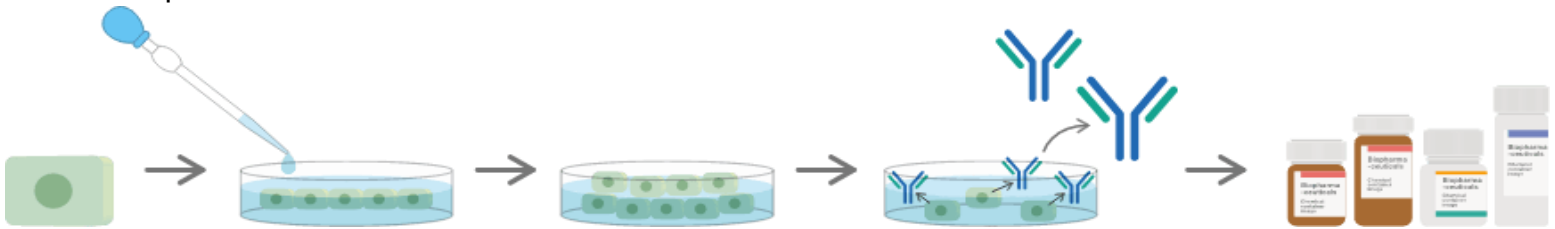
■What are Cell culture media?

Cell culture media are important materials, essential for facilitating cell growth and production of end objects generated from cells. It has the function of providing “environment, nutrients and information” to cells.

Just as people have personal preferences, cells and cell products have individual preference in optimum composition of culture media.

【Function】	【Ingredient】	
Information	Insulin, etc.	**Information function** Ingredient types and their concentration vary largely by cell type
Nutrition	Amino acids, sugar, etc.	**Base function** The types of ingredients required are roughly same for all cell types
Environment	Saline (or similar)	

Cell culture process



Cells to be cultured

Adding a culture medium

The cells grow and propagate

Effective ingredients are generated and refined

Production of biopharmaceuticals and vaccines

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STOP
Achieving Continual Growth