AnGes

FY2022 Financial Results Materials

- Leading Global in Gene Medicine -



February 2023



The performance forecasts and forward-looking statements in these materials are based on information currently available to the Company and include potential risks and uncertainties.

These risks and uncertainties include changes in the economic environment surrounding the Company, progress with research and development, the approval of acquisitions by the regulatory authorities, and system changes and revisions to laws and regulations in countries around the world.

◆ Actual business performance and results may differ significantly from the described forecasts due to various factors.

This document has been translated from the Japanese original for reference purposes only. In the event of any discrepancy between this translation and the Japanese original, the original shall prevail.



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About AnGes

2 Summary of Financial Results for FY2022

Development Pipeline: Topics

Appendix





VISION & MISSION



AnGes aims to become a global leader in genetic medicine.

We focus on research and development of the next-generation biopharmaceuticals such as genetic medicines and aim to achieve practical use of innovative drugs.

It is our mission to make a contribution to the improvement of people's Quality of Life (QOL) and medical standards through the development of innovative drugs. This is accomplished by utilizing advanced technology for the creation of next-generation biopharmaceuticals such as genetic medicines and therapeutic vaccines for diseases that are intractable or rare, and for which no treatments available. We are dedicated to providing innovative drugs for patients as promptly as possible.

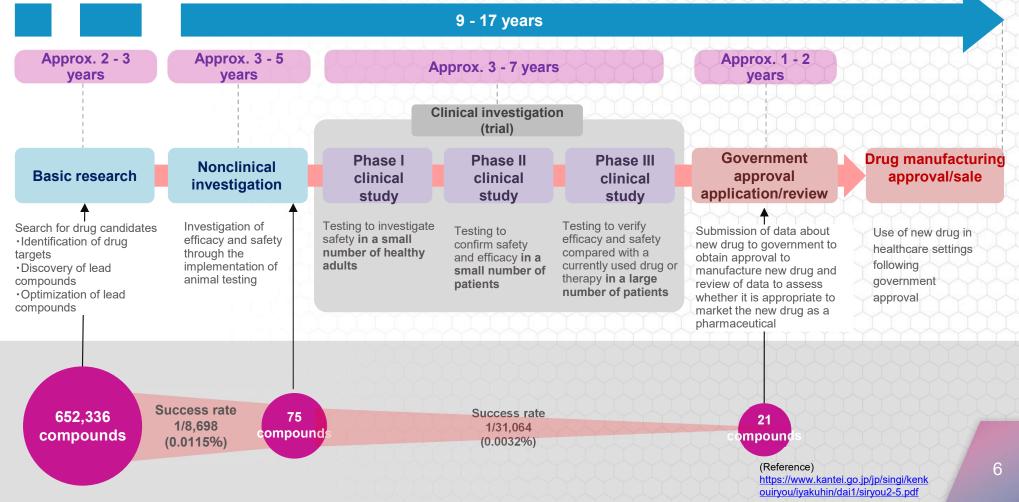


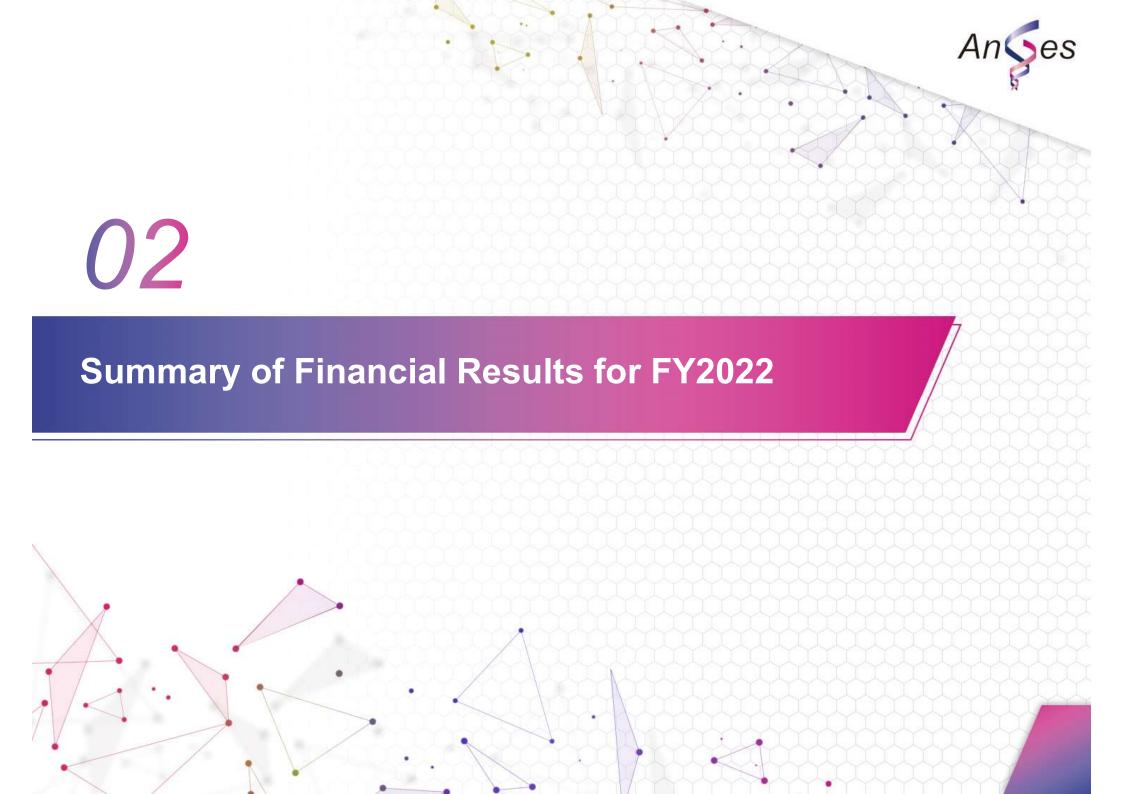
New Drug Development Pathway

The success rate of new drug development is low and the degree of difficulty is extremely high!

The odds of a compound being launched as a new drug is approximately one in every 30000 shots (0.003%)

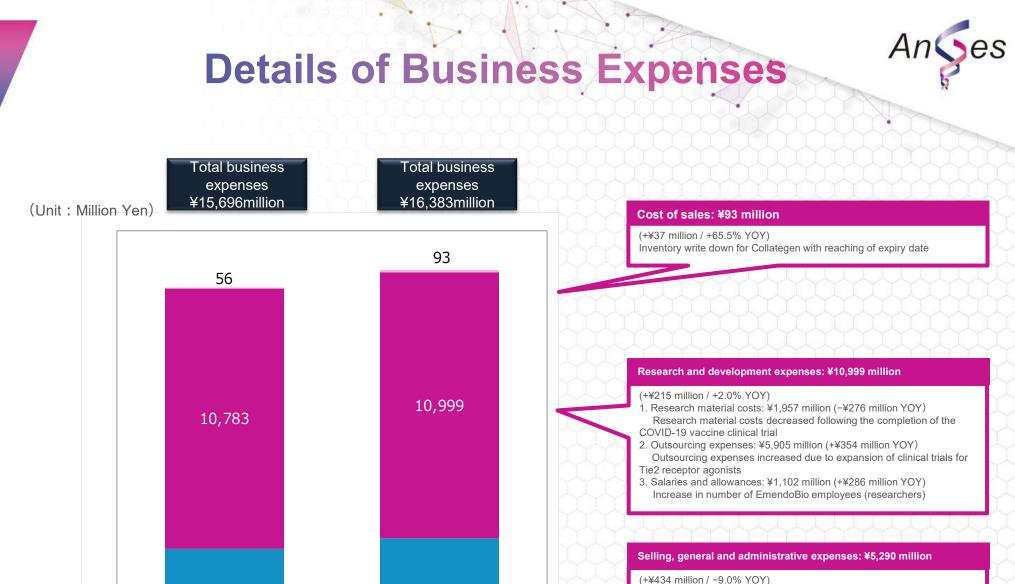
Pharmaceutical development process





Highlights of Consolidated Results for FY2022 Anses

ltem (Million yen)	FY2021	FY2022	Increase/decre ase	Business revenues (+4.5% YOY)
Business Profit	64	67	+3•	Collategen sales: ¥11 million (¥34 million in FY2021) Contracted testing at ACRL: ¥55 million (¥29 million in FY2021) Business expenses (+4.4% YOY)
Business Expenses	15,696	16,383	+687	Cost of sales: ¥93 million (¥56 million in FY2021) Research and development expenses: ¥10,999 million (¥10,783 million in FY2021) • Increase in development expenses for genome editing at EmendoBio • Research and development expenses decreased following completion of the COVID-19 vaccine clinical trial Selling, general and administrative expenses: ¥5,290 million (¥4,855 million in
Operating Profit	-15,632	-16,316	-684	 FY2021) Amortization of goodwill: ¥2,883 million (¥2,407 million in FY2021) Impacted by weak yen despite the same number of US dollar-denominated depreciation as FY2021. Average exchange rate for \$1 USD to ¥1 JPY was ¥131.64 in FY2022 and
Non-operating income/expenses	+2,043	+1,706	-337	¥109.90 in FY2021. Non-operating income/expenses
Ordinary Profit	-13,588	-14,610	-1,022	 Subsidy income: ¥393 million (¥1,500 million in FY2021) ¥118 million for COVID-19 vaccine development (¥1,400 million in FY2021) and ¥276 million for Vasomune (¥100 million in FY2021) Foreign exchange gains due to revaluation of foreign currency-denominated assets: ¥1,322 million (¥599 million in FY2021) Dec. 31 2022 \$1 USD = ¥132.70 JPY
Extraordinary income/losses	-146	-107	+39	Dec. 31 2021 \$1 USD = ¥115.02 JPY (yen depreciated by ¥17.68 YOY) Extraordinary income/Extraordinary losses
Profit	-13,675	-14,714	-1,039	 Impairment losses on non-current assets: ¥104 million (nil in FY2021) Loss on valuation of investment securities: ¥6 million (¥179 million in FY2021)



5,290

FY2022

Cost of sales

Research and

Development

expenses

4,855

FY2021

administrative

expenses

Selling, general and

- (+¥434 million / -9.0% YOY) 1. Commission expenses: ¥855 million (-¥103 million YOY) EmendoBio-related consulting expenses decreased
- Amortization of goodwill: ¥2,883 million (+¥476 million YOY) Increase in depreciation associated with weak yen (average exchange rate for \$1 USD to ¥1 JPY was ¥131.64 in FY2022 and ¥109.90 in FY2021)

(Increase due to revaluation of US dollar-denominated goodwill in yen)

Consolidated Balance Sheet Highlights Anses



Item (Million yen)	Dec. 31, 2021	Dec. 31, 2022	Increase/decr ease	Current assets
Current assets	21,426	12,896	-8,530	 Cash and deposits: ¥11,035 million (-¥6,864 million YOY) Decrease due to business expenditures. Raised capital of ¥3,589 million Advance payments to suppliers: ¥303 million (-¥1,410 million YOY) Decrease due to the transfer of expenses related to COVID-19 vaccine production
Cash and deposits	17,899	11,035	-6,864	Non-current assets Balance of goodwill: ¥23,254 million (+¥579 million YOY)
Non-current assets	24,029	25,924	+1,895	 Balance of goodwill: #25,254 finition (+#579 finition (+019)) Balance increase attributed to a ¥3,461 million revaluation gain associated with the weak yen, despite ¥2,883 million in depreciation (based on 10 years) (Net assets are treated as foreign currency translation adjustments) Lease accounting standard is applied (the US accounting
Goodwill	22,675	23,254	+579	standard of EmendoBio) Right of use assets: ¥1,318 million (nil in FY2021)
Total assets	45,455	38,820	-6,635	Liabilities Advances received: ¥5,764 million (+¥644 million YOY) Increases in subsidies for COVID-19 vaccine development from AMED and the Ministry of Health, Labour and Welfare Application of lease accounting (US accounting standard of EmendoBio)
Liabilities	6,821	8,395	+1,574	Lease liabilities: ¥1,155 million (nil in FY2021) Net assets
Net assets	38,634	30,425	-8,209	 Share capital / capital surplus from financing: ¥1,786 million Decrease of ¥14,714 million in retained earnings due to net loss Revaluation gain due to weak yen Foreign currency translation adjustment: ¥4,841 million (+2,937 million YOY)



Earning Forecast for FY2023

(Unit : Million Yen)

	Business Revenues	Operating Profit	Ordinary Profit	Profit
FY2023 full-year plan	190	-15,500	-9,900	-10,000
FY2022 full-year results	67	-16,316	-14,610	-14,714
Increase / decrease	123	816	4,710	4,714

Subsidies received in FY2022 for the development of DNA vaccines for COVID-19 were recorded as advances received. We plan to record these subsidies as non-operating income in the FY2023 full-year forecast.



Development Pipeline: Topics



Anses

Status of Projects in the Clinical Development Stage



Preparing for

application

Conditional and time-limited approval system

Project	Area	Licensee/partner	Dosage form	Indications	Basic research	Preclinical study	ical ion (trial) Phase II	Approval/revi ew	Conditional/ti me-limited approval	Sale	Post- marketing surveillance	Formal approval	NEW
HGF gene therapy product	Japan	Mitsubishi Tanabe Pharma	Injectable	Chronic arterial occlusive disease with lower limb ulcer					Approved	On Sales	On going	admi	ompleted inistration in et number of
													patients

Approval Process

Project	Area	Licensee/partner	Dosage form	Indications	Basic research	Preclinical study	Clini	cal investigation	(trial)	Approval/revie	Approval
Tojoot	Alcu	Licenseepartier	Dosage form	indications	Dusic rescuren	study	Phase I	Phase II	Phase III	w	
	United States	Mitsubishi Tanabe Pharma	Injectable	Arteriosclerosis obliterans with lower limb ulcer				P2b (on going)			Completed administration target number
	Israel	Kamada	Injectable	Chronic arterial occlusive disease with lower limb ulcer						Application	patients
IGF gene therapy product	Turkey	Er-Kim	Injectable	Chronic arterial occlusive disease with lower limb ulcer						Preparig for application	
NF-кВ decoy oligonucleotide DNA	US / Japan	-	Injectable	Chronic discogenic lumber back pain			Completed				Preparing for Phase In in Japan
DNA vaccine	Australia	-	Injectable	Hypertension			Completed				
DNA vaccine	Inside and outside Japan	-	Injectable	COVID-19 / ADRS			Underway				
Tie-2 receptor agonists	United States	Vasomune	Injectable				Completed	P2b (on going)		<u>P</u>	
Zokinvy (lonafarnib)	Japan	Eiger (Origin of in- licensing)	Capsule	Progeria (HGPS+PL)		In-lic	ensed pro	duct		Preparig for application	



AnSes

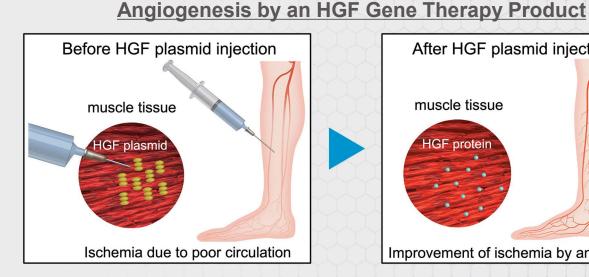


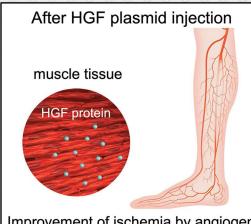
Gene therapy drug for angiogenesis **Collategene®, HGF Gene Therapy Product**

AnGes successfully commercialized an HGF gene therapy Product based on plasmid DNA for the first time in the world in 2019.

- 1) Japan's first gene therapy product
- 2) The world's first plasmid (DNA molecule) product
- 3) The world's first practical application of HGF
- 4) The world's first therapeutic product forming new peripheral vessels
- 5) The world's first therapeutic product in the field of cardiovascular medicine

The information above is as of March 2019 when we obtained a conditional and time-limited manufacture and sales approval.





Improvement of ischemia by angiogenesis

- Approval criteria of the following three organizations:
- Food and Drug Agency (FDA), USA
- European Medicines Agency (EMA)
- Ministry of Health, Labour and Welfare (MHLW), Japan



Preparation for application in spring 2023 for this approval (As of December 2021, 120 cases have been administered)



Applicable disease	Ulcers associated with chronic arterial occlusive diseases (The condition is that blood vessels are completely obstructed and blood flow is blocked, causing a shortage of nutrients and oxygen hindering the healing of even minor scars, and ischemic ulcers and necrosis occurs.)
Number of patients	800,000 patients with chronic arterial occlusive disease in Japan (source: IMS Health, survey materials)
Development status	Launched by Mitsubishi Tanabe Pharma on September 10, 2019. The goal is to receive formal approval within five years (by 2024) based on results of the post-marketing surveillance of 120 patients. (Administration to 120 patients completed as of December 2021)

September 2019: Launched by Mitsubishi Tanabe Pharma

February 2019: Conditional and time-limited approval of the Working Group's Meeting on Regenerative Medicine and Biological Technology under the Pharmaceutical Affairs

and Food Sanitation Council, Ministry of Health, Labour and Welfare

January 2018: Application for approval to manufacture and sell the drug submitted to the Ministry of Health, Labour and Welfare

2015: An exclusive domestic distribution rights licensing agreement for the product with the indication for peripheral vascular disease signed with Mitsubishi Tanabe Pharma.

(Ulcers Associated with Chronic Arterial Occlusive Disease, Overseas)



Late Phase II clinical study underway in the USA.

			Application in the USA under the new global treatment policy				
2003 - 2006	2005 - 2008	2014 - 2016	From 2019	Dec. 2022			
Phase II study (USA)	Phase II study (USA, additional)	Global Phase III study	The new global treatment policy (GVG*) announced (June)	Late Phase II Study in progress (Enrollment of 60 cases			
		The study was discontinued in 15	*GVG-Global Vascular Guidelines, a glob	completed)			
		countries including the USA, Europe, and South America because the number of patients with low risk of lower limb amputation did not reach the target 500.	treatment policy for chronic limb-threaten ischemia due to obstructive arteriosclero				
Applicable disease	Ulcers associated with chro	onic arterial occlusive diseases					
Number of patients	Obstructive arteriosclerosis: 7	7,780,000 (USA) (Source: Foster Ro	osenblatt, survey materials)				
Development status	Late Phase II clinical study ur Enrollment of 60 cases cor	nderway in the USA (from February npleted (end of 2022)	2020)				
2022: Kamada Ltd subm	itted a marketing authorization appl	ication to the Israel Ministry of Health, w	hich was accepted.				
2020: A basic agreement	on the licensing-out (of exclusive o	listribution rights) for Turkey signed wit	h Er-Kim.				
Late Phase II stu	idy underway in the USA under the	new guidelines (Global Vascular Guideli	ne).				
2019: A basic agreemen	t on the licensing-out (of exclusive	distribution rights) for Israel signed with	Kamada	17			
2012: An exclusive distri	bution rights licensing agreement i	n the USA for the product with the indica	tion for peripheral vascular disease sign				



AnSes



We are developing NF-κB decoy oligonucleotide DNA for the treatment of intervertebral lumbago.

NF-κB is the major transcription factor that is activated due to inflammatory and immune reactions in cells when external stimuli are present, such as oxidative stress from active oxygen, in the case of the activation of inflammation or immunity.

It has been pointed out that it will exacerbate allergic/immunological diseases such as atopic

dermatitis and asthma if NF-kB over-activates an inflammation-causing gene.

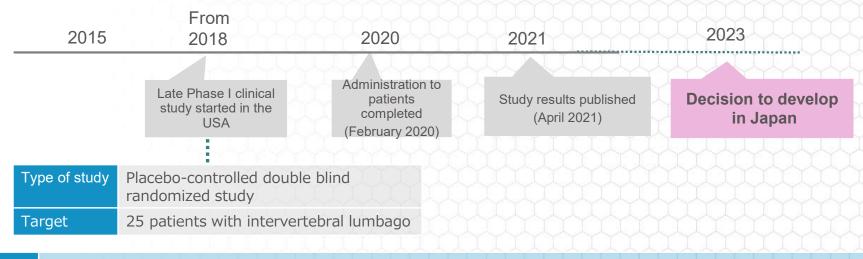
When a large amount of NF-kB decoy is put in the body as a decoy, it will inhibit binding between NF-

κB and the genetic transcriptional regulatory sequence that causes inflammation.

We have been developing this drug since 2018 for the treatment of low back pain, including discogenic back pain



Decided to conduct Phase II clinical trials in Japan



Applicable disease	Chronic discogenic lumber back pain
Number of patients	5,770,000 (USA) (Source: https://hpi.georgetown.edu/backpain and Pain Med. 2015,16(8):1490-9)
Development status	Administration to 25 patients in the late Phase I clinical study completed in the USA (February 2020). Decision to conduct Phase II clinical study in Japan (January 2023)

Jan 2023: Decision to conduct Phase II clinical study in Japan.

April 2021:Results of the late Phase I clinical study (observation period: 12 months) published.

February 2021:Results of the late Phase I clinical study (observation period: 6 months) published.

February 2020:Administration to 25 patients completed.

February 2018: Late Phase I clinical study started in the USA

Note: The global market size is large, including the USA

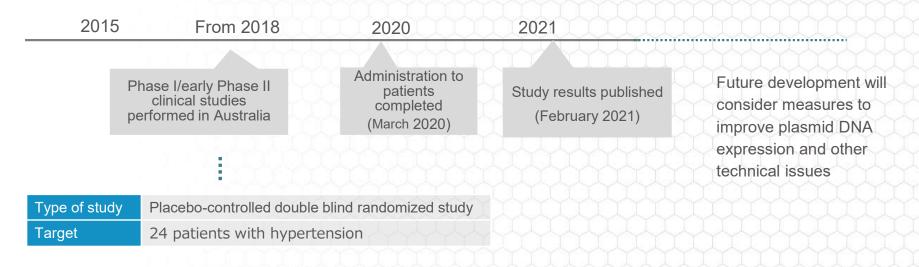
Note: Treatment with intervertebral injection is common in the USA. There are many doctors proficient in the technique, and the number of patients is high in the country.



AnSes



Administration to patients in Phase I/early Phase II clinical studies completed. Future development will include measures to improve technical issues



Applicable disease	Hypertension				
Number of patients	61,460,000 (USA) (Source: AHA (<u>https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000000757</u>)				
Development status	Administration to patients in Phase I/early Phase II clinical studies completed (March 2020) Study results published (no serious adverse events, no problem with safety) Under preparation for the start of the next stage of clinical investigation.				
February 2021: Results of Phase I/early Phase II clinical studies published.					
March 2020: Administration to patients in Phase I/early Phase II clinical studies completed.					
Safety and	efficacy to be evaluated in a double-blind setting for about 6 months.				

Then, long-term safety and efficacy in an open-label setting for about 6 months.

April 2018: Phase I/early Phase II clinical studies started in Australia.



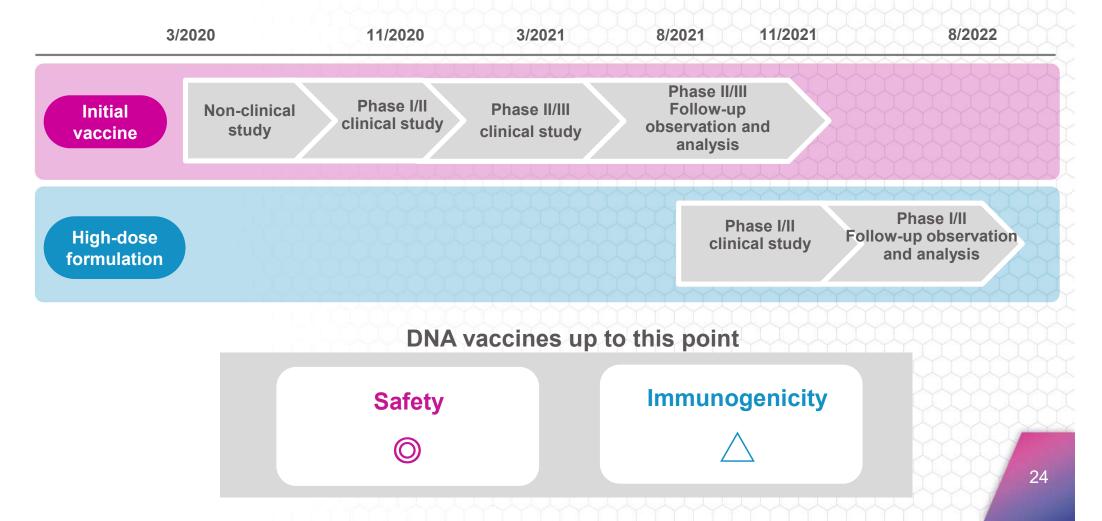
AnSes

Development of DNA vaccines up to this point was discontinued, and an improved DNA vaccine was newly developed



After deciding to develop a DNA vaccine for COVID-19 (Wuhan strain) in March 2020, we began non-clinical testing of the initial vaccine and completed administration of the Phase II/III clinical study by March 2021. Phase I/II clinical study using a high-dose formulation of the initial vaccine with an increased drug concentration began in August 2021.

No safety problems were observed, and although some increase in cellular immunity was confirmed, the expected effect could not be obtained for liquid immunity, and the decision was made to discontinue the development of DNA vaccines up to this point.



Initiative with Stanford University And



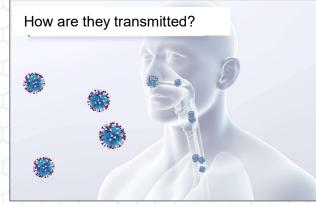
Research and development of nasal dosage forms for safer and more effective vaccines

Imp	proved DNA vaccine
Platform review	Improved plasmid expression and transduction efficiency
Nasal dosage forms	Stimulates a broad immune response, preventing viral proliferation and spread

[About nasal administration]

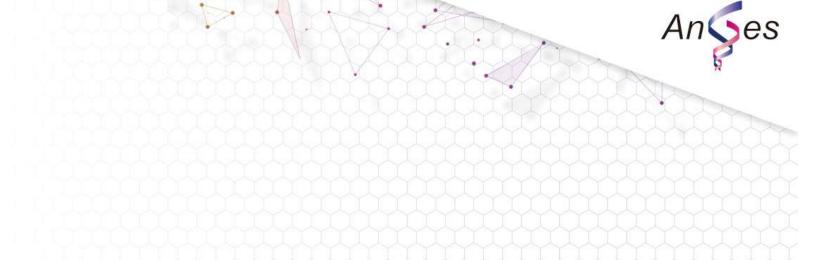
Viruses and bacteria that cause COVID-19, influenza, and colds try to enter the body through the mucous membranes of the "upper respiratory tract" such as the nose, mouth and throat, and the "digestive tract" such as the intestinal tract. The upper respiratory tract and digestive tract have a mechanism called "mucosal immunity" to protect against infection and intercept viruses.

If antibodies known as "IgA" of the type secreted in the mucous membranes can be produced in the nose and throat, it may be more effective in preventing the infection itself, and nasal administration can create immunity in the respiratory tract, which is the site of infection.



Outline of joint research agreement

Name of partner	Stanford University
Location of partner	California, United States
Research duration	Approximately 3 years
Research fund	Approximately 3 million USD



Tie-2 Receptor Agonist



Early Phase II clinical study underway

From De	ec. 2020	Mar. 2021	Jan. 2022	
Phase I o study sta the Us	rted in	Favorable results of Phase I clinical study published in the USA	Early Phase II clinical study started in the USA	Aim to complete enrollment of the target number of patients in early Phase II clinical stud, in FY2023
Type of study	Placebo-controlled of	double blind study		
Target	Healthy adults			
	- 11 YAAAA			

Applicable disease	Acute respiratory distress syndrome associated with COVID-19
Number of patients	Acute respiratory distress syndrome: 260,000 (USA) (Source: Am J Resp Crit Care Med, Volume 195 Number 7)
Development status	AV-001, Tie-2 receptor agonist compound Early Phase II clinical study underway in the USA Submitted an application to the FDA (U.S.) and received approval to expand the target disease to ARDS, including viral and bacterial pneumonia such as influenza.

March 2021: Favorable results of the Phase I clinical study with the drug for treating COVID-19 AV-001 published in the USA. Vasomune obtained a subsidy from the Canadian government for development of AV-001, the drug for treating COVID-19 December 2020: Phase I clinical study with the drug for treating COVID-19 AV-001 started in the USA. Safety and tolerability of AV-001 confirmed in the Phase I clinical study. July 2018: Joint development of AV-001 with Vasomune Therapeutics (Canada) started. Target diseases: Diseases caused by insufficiency of blood vessels, such as acute respiratory failure



Zokinvy®, a Drug for Treating Rare Diseases (Lonafarnib)



Aiming for regulatory approval and listing in the NHI drug price list, preparations are underway to obtain approval in Japan

Signed a distribution agreement with Eiger for Zokinvy in Japan	Aiming for regulatory approval and NHI drug price listing as soon as possible First, we will proceed with procedures to receive orphan drug designation
	*About orphan drug Rare disease drugs for intractable diseases for which t number of patients is small and treatment methods ha not been established The revision of the Pharmaceutical Affairs Law in 1993
	started a full-fledged public R&D assistance program f orphan drugs.

Target disease	Hutchinson-Gilford Progeria Syndrome (HGPS)/Progeroid Laminopathy (PL) (Progeria)
Status	In preparation for orphan drug designation Meetings with relevant agencies for approval in Japan

 May 2022: Entered into an agreement with U.S. pharmaceutical company Eiger BioPharmaceuticals Inc. to

 market Zokinvy, a rare disease therapeutic, in Japan.

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Anses

AnGes Clinical Research Laboratory (ACRL)



They are a health laboratory whose main purpose is to perform testing for rare genetic diseases

1000	- Ultra-rare diseases with very small number of patients
Rare genetic diseases	(e.g., phenylketonuria, mucopolysaccharidosis, duchenne muscular dystrophy)
	- It is important to start treatment in the early stages after onset and ideally before onset.



We have been contracted to provide testing services for optional screening, fee-based testing provided by the Clinical & Research Association for Rare, Intractable Diseases (CReARID) for people who wish to be tested.

AnGes Clinical Research Laboratory

- Established in April 2021
- Optional screening started in cooperation with CReARID. (July 2021)
- Today, about 10,000 tests are performed per year.

- We will enhance tests to test for more diseases and increase the number of test labs in the future.

Tests for newborns

Mass screening

- **Provided free to all babies born in Japan** (e.g., phenylketonuria, congenital hypothyroidism)

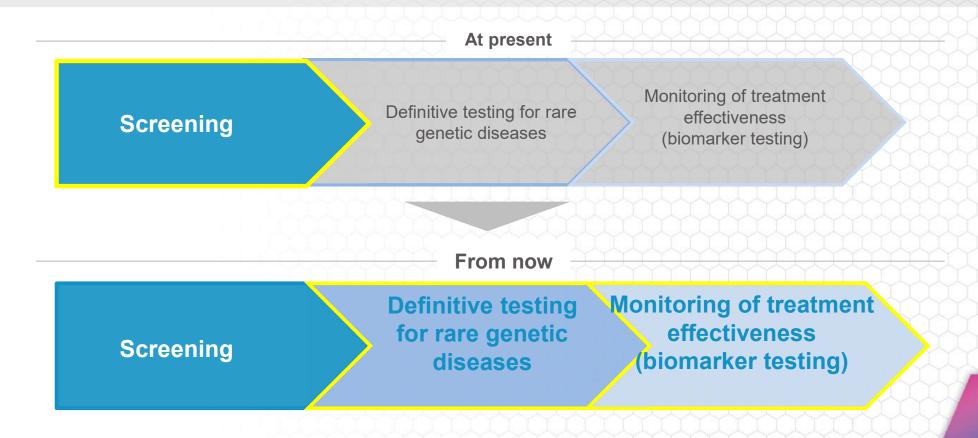
Fee-based additional tests

- Fee-based tests provided to applicants
- Diseases excluded from mass screening
- (e.g., Pompe disease, mucopolysaccharidosis)

AnGes Clinical Research Laboratory (ACRL)



Establishment of a system that enables comprehensive testing from diagnosis to treatment of rare genetic diseases, including definitive testing for rare genetic diseases and biomarker testing to monitor treatment effectiveness





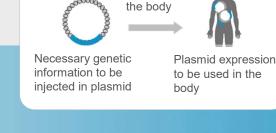
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The Stage Following Gene Therapy

Genome editing is the ultimate gene therapy

Plasmid DNA

To be injected in

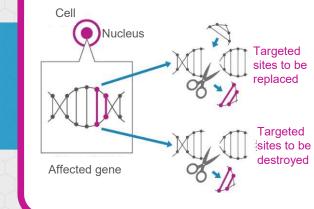


To be injected in the body

Necessary genetic Viral expression information to be inserted (proliferation) to in weakened viruses be used in the body

Viral vector

Genome Editing











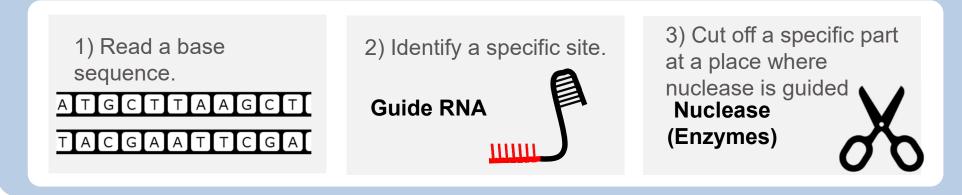
What is Genome Editing?

The technology uses nuclease, the enzyme for cleaving DNA that selectively cuts off specific base sequences (target sequences).

★ CRISPR/Cas9

(<u>C</u>lustered <u>R</u>egularly <u>I</u>nterspaced <u>S</u>hort <u>P</u>alindromic <u>R</u>epeats/<u>C</u>RISPR-<u>As</u>sociated Proteins <u>9</u>)

In 2012, an innovative technology was developed for cleaving target DNA sequences more quickly and easily than the conventional technologies.



Genome editing won the Nobel Prize in Chemistry in 2020. The technology is attracting global attention, and is expected to be applied in humans.

emendo For the Avoidance of Off-target Effects





Sequences similar to the target sequences may be cut



Ideally, 100% of sequences other than target should not be cut

It is important to avoid off-target effects

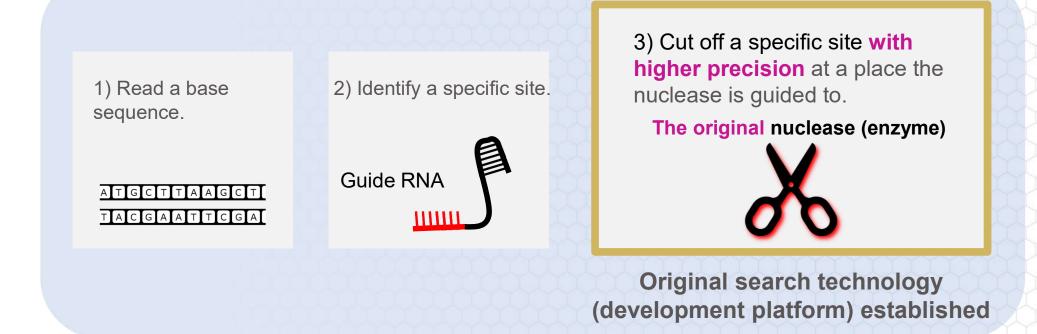
To mitigate off-target effects:

- Search for any sequences similar to target sequences in genomes.
- Avoid target sequences if there are similar ones. Look for other target sequences.

"Off-target effects" was a concern for conventional technologies. Emendo, however, aims to establish highly safe genome editing and apply the technology in healthcare using an improved nuclease.







Mitigation of off-target effects enabled

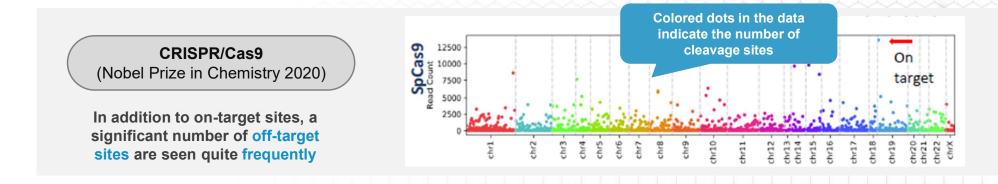
emendo Development of the Original Platform

off-target effects and enable the editing of allele-specific genes.

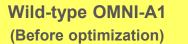
Establishment of the OMNI Platform

Emendo creates a large number of OMNI nucleases with new characteristics, selects the appropriate nucleases from many OMNI nucleases, and optimizes them for the target sequences. They are developing safe and effective remedies, exploring new nucleases and using optimization technology.

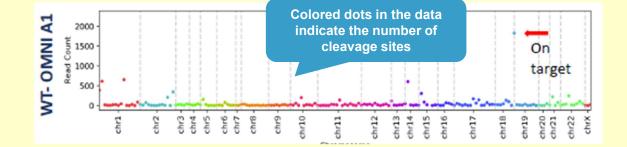
emende Highly accurate genome editing is possible es with EmendoBio's technology



EmendoBio's genome editing technology



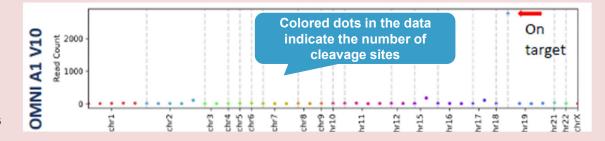
Off-target sites are much less common, but there are scattered cleavage sites other than on-target sites



Optimization (Further optimization of allele-specific gene editing with AI)

OMNI-A1-V10 (After optimization)

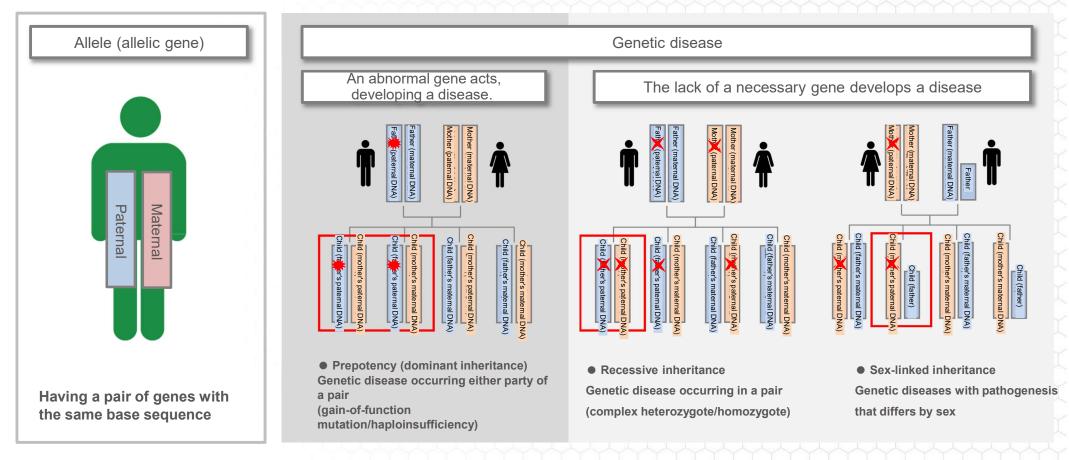
Almost no cutting occurs except for ontarget (disease-causing) areas ⇒No extra cuts are made except where cuts should be made



emendo Materialization of Allele-specific Ar Genome Editing 1)



Basically, a human has a pair of genes with the same base sequence.



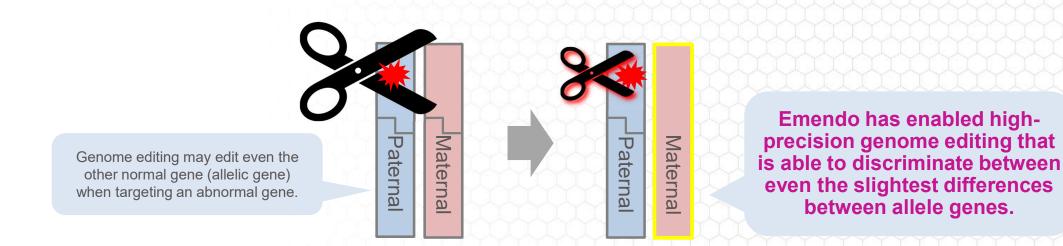
Genetic diseases can occur if both paternal and maternal genes are abnormal or either the paternal or

maternal gene is abnormal.

emendo Materialization of Allele-specific A. Genome Editing 2)



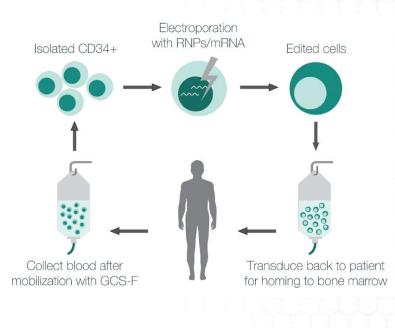
Allele-specific gene editing means editing selectively targeted abnormal genes without damaging the other allelic genes.



Emendo will first realize the treatment of many different dominantly inherited diseases where there is an abnormality in either of the genes by optimizing their original nuclease to have precision that is high enough to enable safe and effective gene editing. It will expand the scope of application of genome editing in treatments. emendo Aiming to treat ELANE-related severe congenital neutropenia requiring avoidance of off-target effects.



EmendoBio aims to enter the clinic by the end of 2023 for ELANE-related severe congenital neutropenia (SCN) by utilizing Emendo's technology (OMNI Platform) to create new genome editing tools.



 [Applicable Disease]
 ■ ELANE (Elastase, Neutrophil Expressed)related severe congenital neutropenia (SCN)

*Neutropenia stems from a maturation defect of granulocytic series cells in bone marrow. It can result in developing tympanitis, respiratory tract infections, cellulitis, and skin infections repeatedly and occasionally sepsis.

In June 2022, they published their thesis that had been published in the journal of the world' largest group of gene and cellular therapy researchers on their website.

They were able to accurately distinguish and destroy only the abnormal genes with almost identical sequences, without damaging the normal genes, and as a result, the hematopoietic stem cells were able to differentiate into neutrophils

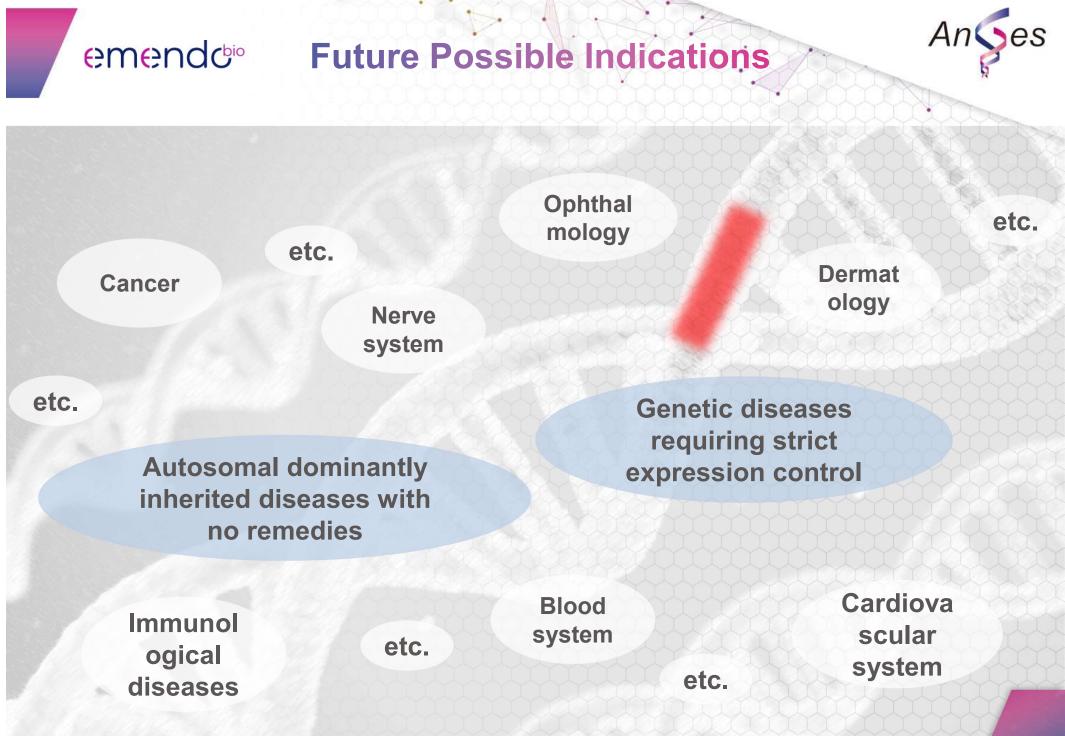




David Baram, CEO of EmendoBio, was a guest speaker at the "13th International Collaborative Forum of Human Gene Therapy for Genetic Disease", held at the University of Tokyo in January



The 13th International Collaborative Forum of Human Gene Therapy for Genetic Disease





Leading Global in Gene Medicine



AnGes's website https://www.anges.co.jp/en/