

*Exploring the Innovative Promise of Glycoscience*

# Financial Results for the Fiscal Year 2014 (April 1, 2014 – March 31, 2015)



<http://healthy-knee.com/>



**SEIKAGAKU CORPORATION**

(TSE:4548)

# Overview of Fiscal Year 2014

(Millions of Yen)	FY2014 Results	Year-on-Year		Comparison with Forecasts	
		Change	% of Change	Change	% of Change
<b>Net sales</b>	<b>29,522</b>	<b>-91</b>	<b>-0.3%</b>	<b>+372</b>	<b>+1.3%</b>
<b>Operating Income</b>	<b>2,383</b>	<b>-2,554</b>	<b>-51.7%</b>	<b>-366</b>	<b>-13.3%</b>
<b>Ordinary Income</b>	<b>4,008</b>	<b>-1,870</b>	<b>-31.8%</b>	<b>-191</b>	<b>-4.6%</b>
<b>Net Income</b>	<b>3,650</b>	<b>-1,095</b>	<b>-23.1%</b>	<b>+200</b>	<b>+5.8%</b>
<b>R&amp;D Expenses (Ratio to net sales)</b>	<b>8,146 (27.6%)</b>	<b>+1,558 (+5.4pt)</b>	<b>+23.7%</b>	<b>+846 (+2.6pt)</b>	<b>+11.6%</b>
Average Exchange Rate (1US\$)	¥109.94	+¥9.70		+¥7.94	

	FY2014 Results	FY2013 Results	FY2014 Forecasts
<b>Net Income per Share</b>	<b>¥64.27</b>	¥83.55	¥60.73
<b>Dividend per Share</b>	<b>¥26.00 *</b>	¥26.00	¥26.00
<b>Dividend Payout Ratio</b>	<b>40.5% *</b>	31.1%	42.8%
<b>R O E</b>	<b>5.4%</b>	7.5%	

# Net sales by Business Segment(FY2014)

(Millions of Yen)	FY2014 Results	Year-on-Year	% of Change
Net sales	29,522	-91	-0.3%
Pharmaceuticals	24,646	-696	-2.7%
Domestic Pharmaceuticals	16,898	-1,097	-6.1%
Overseas Pharmaceuticals	6,339	+622	+10.9%
Bulk Products	1,407	-222	-13.6%
LAL Business	4,876	+604	+14.2%
(Overseas sales)	9,997	+1,194	+13.6%

\*Foreign exchange impact on overall net sales:  
approx. +¥880 million

## Domestic Pharmaceuticals

- **ARTZ** (joint-function improvement agent)
- **OPEGAN**(ophthalmic surgical aid)

Sales decrease due to NHI drug price reductions, despite volumes increase



ARTZ:  
Joint-function improvement agent with hyaluronic acid as its main ingredient

Drug price revision  
(2014/4~; excluding consumption tax hike)  
•ARTZ Dispo®:¥1,453(-7.4%) •Industry average: -5.7%

- **MucoUp**(surgical aids for endoscopic mucosal resection)

Deliveries to medical institutions remained at roughly the prior-year level, and Seikagaku sales down due to sales partner inventory adjustments

# Net sales by Business Segment(FY2014)

(Millions of Yen)	FY2014 Results	Year-on-Year	% of Change
Net sales	29,522	-91	-0.3%
Pharmaceuticals	24,646	-696	-2.7%
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\*Foreign exchange impact on overall net sales:  
approx. +¥880 million

## Overseas Pharmaceuticals

### ➤ ARTZ (multiple injection)

#### ● SUPARTZ in the U.S:

Slight decrease in local sales  
Seikagaku sales down following an inventory build-up by the sales partner in fiscal 2013, despite the impact of yen depreciation

#### ● ARTZ in China:

Seikagaku sales up on growth in local sales



SUPARTZ®: Multiple-injection joint function improving agent

### ➤ Gel-One in the U.S. (single injection)

Seikagaku sales up on higher shipments and the contribution from yen depreciation



Gel-One®: Single-injection joint function improving agent

# Net sales by Business Segment(FY2014)

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\*Foreign exchange impact on overall net sales:  
approx. +¥880 million

## Bulk Products

Decrease in sales of hyaluronic acid in a fierce market

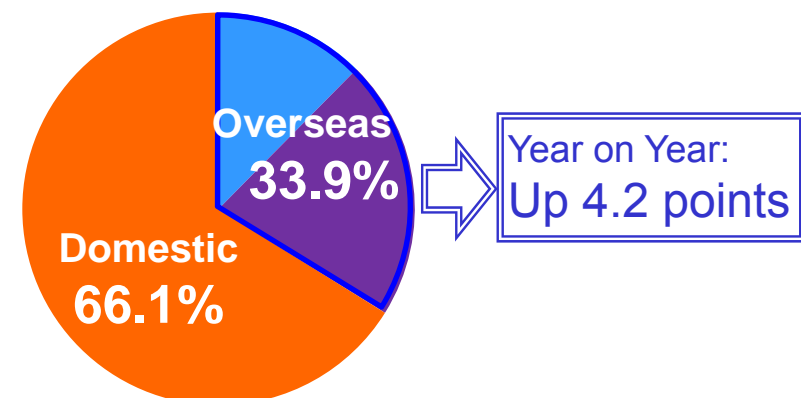
\*Bulk Products:

The manufacture and sale of high-purity, high-quality hyaluronic acid and chondroitin sulfate for pharmaceuticals

## LAL Business

Increase in sales in Japan and overseas and the contribution from yen depreciation

## Overseas Sales Ratio



■ Overseas LAL/Bulk ■ Overseas Pharmaceuticals ■ Domestic sales

# Income in FY2014 (Year-on-Year)

(Millions of Yen)	FY2014 Results	Year-on-Year	% of Change
Net sales	29,522	-91	-0.3%
Cost of Sales (Cost of Sales ratio)	12,130 (41.1%)	+906 (+3.2pt)	+8.1%
SGA expenses	15,008	+1,555	+11.6%
R&D Expenses (to Net sales ratio)	8,146 (27.6%)	+1,558 (+5.4pt)	+23.7%
Operating Income (to Net sales ratio)	2,383 (8.1%)	-2,554 (-8.6pt)	-51.7%
Ordinary Income	4,008	-1,870	-31.8%
Net Income	3,650	-1,095	-23.1%
Depreciation	2,610	+842	+47.7%

## Operating Income

### Cost of Sales (+3.2pt):

Increase due to the impact of higher depreciation accompanying the start of operation of new production facilities and NHI drug price reductions

### SGA Expenses (+1,555):

- R&D expenses: Sharp increase resulting from progress with development themes

## Net Income

### Non-operating Income/Expenses (+684):

- Gain on the sale of investment securities (+388)
- Increase in foreign exchange gains on foreign currency-denominated assets (+157)

### Corporate Taxes, etc. (-846):

Decrease in the income tax rate due to preferential taxation in connection with the designation of the Takahagi Plant as a special district for industrial revitalization and a capital reduction with compensation at a U.S. subsidiary (20.2% in FY2013 → 8.9% in FY2014)

# Income in FY2014 (Comparison with forecasts)

(Millions of Yen)	FY2014 Results	Compa. with forecasts	% of Change
Net sales	29,522	+372	+1.3%
Operating Income (to Net sales ratio)	2,383 (8.1%)	-366 (-1.3pt)	-13.3%
Ordinary Income	4,008	-191	-4.6%
Net Income	3,650	+200	+5.8%

Cost of Sales ratio	41.1%	+0.6pt	
R&D Expenses (to Net sales ratio)	8,146 (27.6%)	+846 (+2.6pt)	+11.6%
Depreciation	2,610	-39	-1.5%

## Net sales

### Pharmaceuticals Business (+46):

The impact of yen appreciation and higher-than-expected sales of SUPARTZ in the U.S. compensated for underperformance of ARTZ in Japan.

### LAL Business (+326):

Increase due to yen depreciation

## Operating Income

### SGA Expenses (approx. +460):

R&D expenses higher than expected due to progress with SI-6603 in the U.S. and other pipeline projects

## Net Income

### Non-operating Income/Expenses (approx. +170):

Foreign exchange gains on foreign currency-denominated assets compensated for lower-than-expected royalty income.

### Corporate Taxes, etc. (approx. -340):

Decrease from the impact of a lower income tax rate due to preferential taxation in connection with the designation of the Takahagi Plant as a special district for industrial revitalization.

# Overview of Forecasts in FY2015

(Millions of Yen)	FY2015 Forecasts	FY2014 Results		
		Results	Change	% of Change
Net sales	30,650	29,522	+1,127	+3.8%
Operating Income	2,400	2,383	+16	+0.7%
Ordinary Income	3,800	4,008	-208	-5.2%
Net Income	2,900	3,650	-750	-20.6%
R&D Expenses (to Net sales ratio)	7,850 (25.6%)	8,146 (27.6%)	-296 (-2.0pt)	-3.6%
Average Exchange Rate (1US\$)	¥118.00	¥109.94	+¥8.06	

	FY2015 Forecasts	FY2014 Results
Net Income per share	¥51.05	¥64.27
Dividend per share	¥26.00	¥26.00*
Dividend Payout ratio	50.9%	40.5%*

Exchange Rate Sensitivity (Impact of a change of ¥1 against the US\$)	
Net sales	Approx. ¥95 million
Operating income	Approx. ¥35 million

\*Year-end dividend of ¥13 per share to be decided at the general meeting of shareholders on June 2015.



# Forecasts(Net sales) in FY2015

(Millions of Yen)	FY2015 Forecasts	Year-on-Year	
		Change	% of Change
Net sales	30,650	+1,127	+3.8%
Pharmaceuticals	25,400	+753	+3.1%
Domestic Pharmaceuticals	16,950	+51	+0.3%
Overseas Pharmaceuticals	7,100	+760	+12.0%
Bulk Products	1,350	-57	-4.1%
LAL Business	5,250	+373	+7.7%
(Overseas sales)	11,150	+1,152	+11.5%

\*Foreign exchange impact on overall net sales:  
approx. +¥870 million

## Net sales

Forecast of higher sales due to the impact of yen depreciation and growth from overseas pharmaceuticals

## Pharmaceuticals

### Domestic Pharmaceuticals:

- Forecast of sales at the prior-year level

### Overseas Pharmaceuticals

- Higher volumes of Gel-One and ARTZ in China and the contribution from yen depreciation

## LAL Business

Sales increase at the U.S. subsidiary

# Forecasts(Income) in FY2015

(Millions of Yen)	FY2015 Forecasts	Year-on-Year	
		Change	% of Change
Net sales	30,650	+1,127	+3.8%
Operating Income (to Net sales ratio)	2,400 (7.8%)	+16 (-0.3pt)	+0.7%
Ordinary Income	3,800	-208	-5.2%
Net Income	2,900	-750	-20.6%
Cost of Sales ratio	41.8%	+0.7pt	
R&D Expenses (to Net sales ratio)	7,850 (25.6%)	-296 (-2.0pt)	-3.6%
Depreciation	3,300	+689	+26.4%

## Income

Despite lower R&D expenses, a decrease in net income on higher depreciation and the end of a temporary tax rate reduction

## Operating Income

### Cost of Sales (approx. +650):

- Increase in depreciation of new production facilities

### SGA Expenses (approx. +450):

- Forecast of lower R&D expenses
- Increase in sales-related expenses for Gel-One and other products

## Net Income

### Decrease in Non-operating Income (approx. -200):

- Forecast of higher royalty income but lower foreign exchange gains

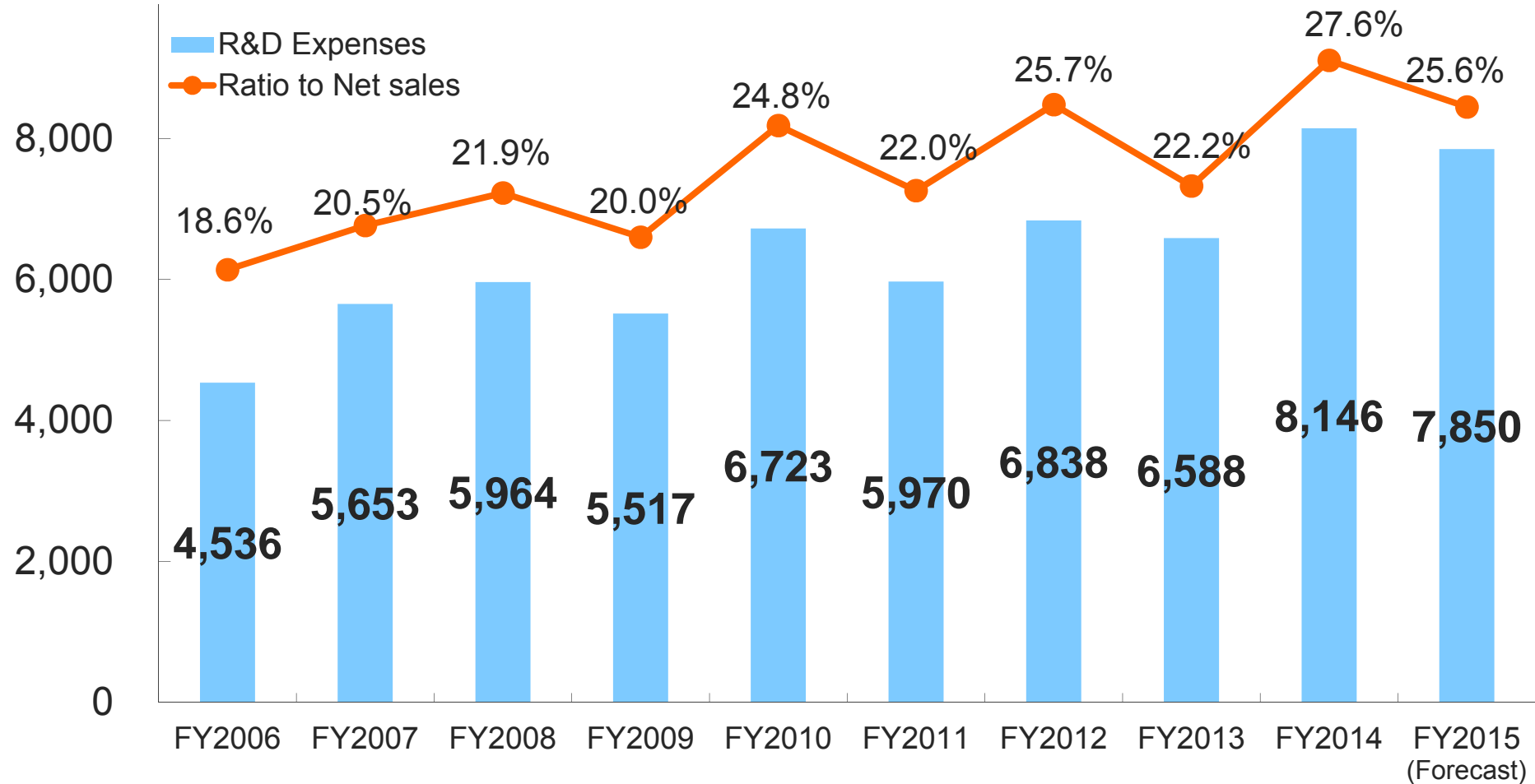
### Tax Rate Increase:

- The end of a temporary reduction

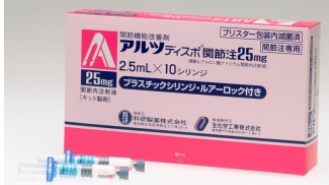

# Trend in R&D Expenses

R&D expenses to remain at a high level in FY2015 due to progress with an open-label trial for SI-6603 in the U.S. and other projects

(Millions of Yen)



# Domestic Sales (unit deliveries to medical institutions/Year-on-Year)

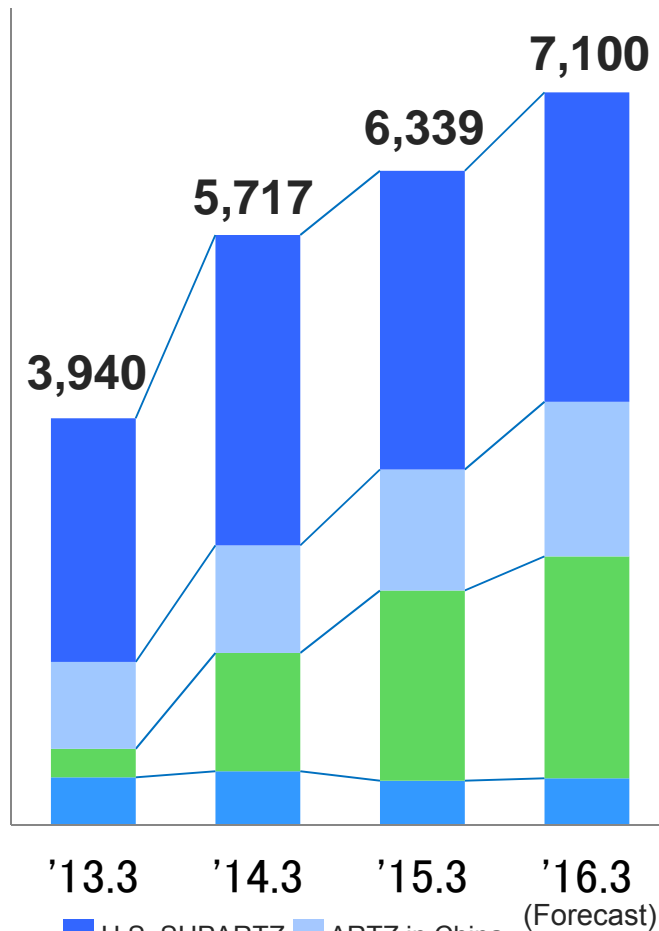
	FY2014 Results	FY2015 Forecasts	
<b>ARTZ</b> 	<b>Expand market share due to sales promotion efforts</b>  Market share: 57.7% ARTZ growth rate: +1.1% (Market growth rate: -1.0%)	<b>Aim for expanding market share</b> <ul style="list-style-type: none"> <li>Engage in sales activities in selected key areas.</li> <li>Leverage strength of brand to take share from competitors.</li> </ul>	<ul style="list-style-type: none"> <li>Market share <b>59.5%</b>(forecast)</li> <li>ARTZ growth rate <b>+1.2%</b>(forecast)</li> </ul>
<b>OPEGAN</b> 	<b>Market share decrease in a market where competition remains fierce</b>  Market share: 34.4% OPEGAN growth rate: +0.6% (Market growth rate: +1.7%)	<b>Aim for growth in line with market growth</b> <ul style="list-style-type: none"> <li>Utilize sales promotion materials and step up information provision activities.</li> </ul>	<ul style="list-style-type: none"> <li>Market share <b>34.4%</b>(forecast)</li> <li>OPEGAN growth rate <b>+2.4%</b>(forecast)</li> </ul>

Unit / Market share Trend	FY2013 Results		FY2014 Results		FY2016 Forecasts	
	Unit(thousand)	Share	Unit(thousand)	Share	Unit(thousand)	Share
ARTZ	23,229	56.5%	23,490	57.7%	23,770	59.5%
OPEGAN	578	34.8%	581	34.4%	596	34.4%

# Overseas Pharmaceuticals (value basis/Year-on-Year)

## Overseas Pharmaceuticals Sales trend

(Millions of Yen)



■ U.S. SUPARTZ    ■ ARTZ in China  
■ Gel-One    ■ Other areas

**FY2014 Results**  
+10.9%

Increase on higher volumes of Gel-One and the impact of yen depreciation

\*Foreign exchange impact: + approx. ¥570 million

### ARTZ (multiple injection)

- SUPARTZ in the U.S: Despite fierce competition, only a slight decrease in local sales thanks to sales company efforts
- ARTZ in China: Increase in local sales thanks to a reputation for high quality
- Seikagaku exports: Decreased following a high level of shipments of SUPARTZ in FY2013

### Gel-One (single injection)

- Increase in both local sales and Seikagaku sales

**FY2015 Forecast**  
+12.0%

Expected increases for Gel-One and ARTZ in China and the impact of yen depreciation

\*Foreign exchange impact: + approx. ¥420 million

### ARTZ (multiple injection)

- SUPARTZ in the U.S: Sales at roughly prior-year level with promotion efforts
- ARTZ in China: Expected continued growth in the pharmaceuticals market and double-digit local sales growth
- Seikagaku exports: Increase on growth from ARTZ in China and the impact of yen depreciation

### Gel-One (single injection)

- Aim to increase sales with measures to increase product awareness and other initiatives.

# Measures for business expansion in the U.S.



## Measure to increase product awareness

- Advertising targeting physicians and release of a mobile app for patients

## Measure to increase product value

- Gel-One/SUPARTZ labeling change clinical trials



SUPARTZ: Multiple injection-product

## Strengthening of sales promotion

- Product education / Preparation of sales promotion tools
- Reinforcement of sales promotion in channels where insurance reimbursement is possible



Gel-One: Single-injection product

## Promote and initiate the sales partners and ACC

## Expansion of the LAL business

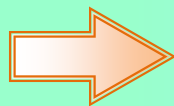
- Capturing of share from competitors through new product development and reinforcement of sales activities



Endotoxin detection reagents

Establishment of **North American Business Unit** in May 2015

- Opening of **SEIKAGAKU U.S.A. Representative Office** in October 2014



**Accelerate business development in the U.S., a key region.**

# The LAL Business

## What is the LAL business?

The manufacturing and sale of reagents used in the quality control of pharmaceuticals and in water quality Control in dialysis at hospitals

\*Endotoxin detection reagents are reagents whose main ingredient is Limulus Amebocyte Lysate (LAL).

\*Endotoxins are substances derived from bacteria. Since they cause fever even in minute amounts, testing for endotoxin contamination in pharmaceuticals is compulsory

➤ **Size of the global market: Approx. ¥20.0 billion**  
(Seikagaku estimate, including associated equipment)



Endotoxin detection reagents  
(for quality control of pharmaceuticals  
and medical devices)

## Associates of Cape Cod, Inc. (ACC)

- U.S. subsidiary of Seikagaku Corporation (established in 1974, acquired by Seikagaku in 1997)
- Developed the world's first endotoxin detection reagent and obtained FDA approval in 1977
- A sales network spanning 80 countries
- Solid business performance in recent years



PYROCHROME®

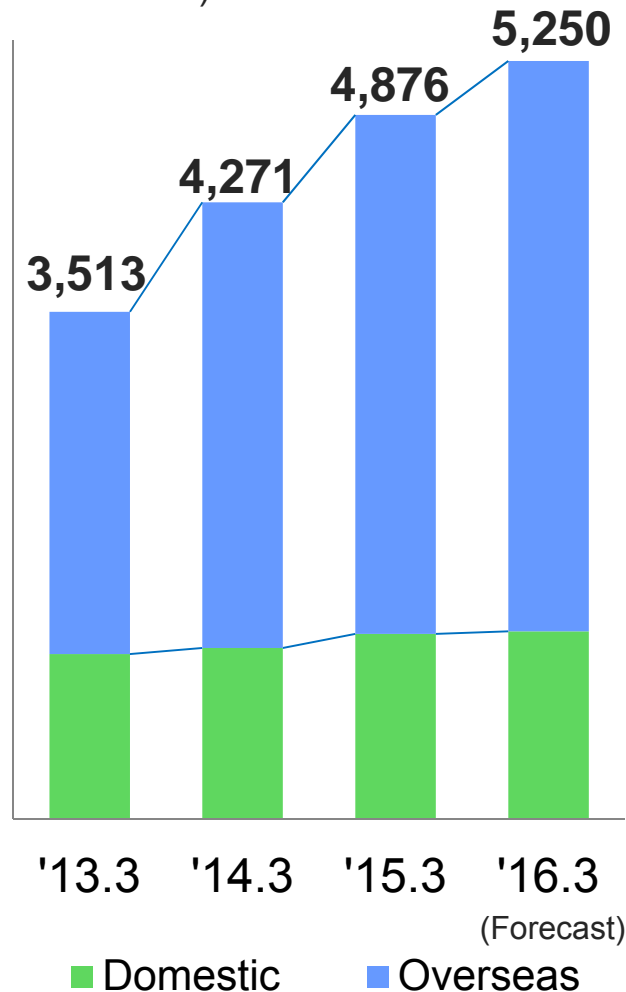


Exterior of the ACC offices

# Sales of LAL Business (value basis/year-on-year)

## LAL Business Sales trend

(Millions of Yen)



**FY2014 Results: +14.2%** (Year-on-Year)

### Overseas

- Increase in sales of quality control endotoxin detection reagents and in-vitro diagnostic used by pharmaceutical companies and other customers
- Contribution from yen depreciation

### Domestic

- Increase in sales of endotoxin detection reagents and equipment

**FY2015 Forecast: +7.7%** (Year-on-Year)

### Overseas

Forecast of a sales increase from steady sales coupled with the impact of yen depreciation

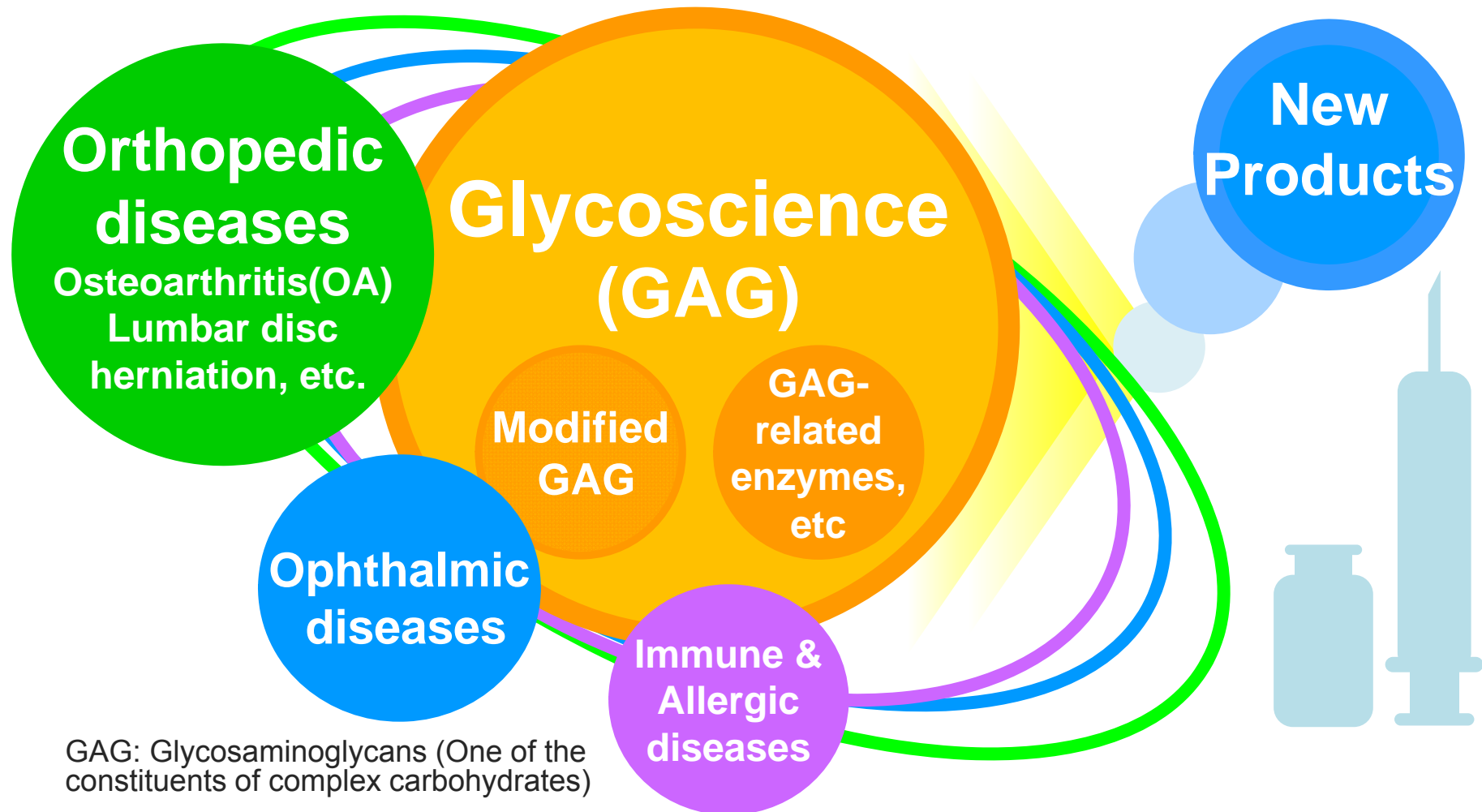
### Domestic

Forecast of an increase in sales of reagent-associated equipment due to sales campaigns and other factors

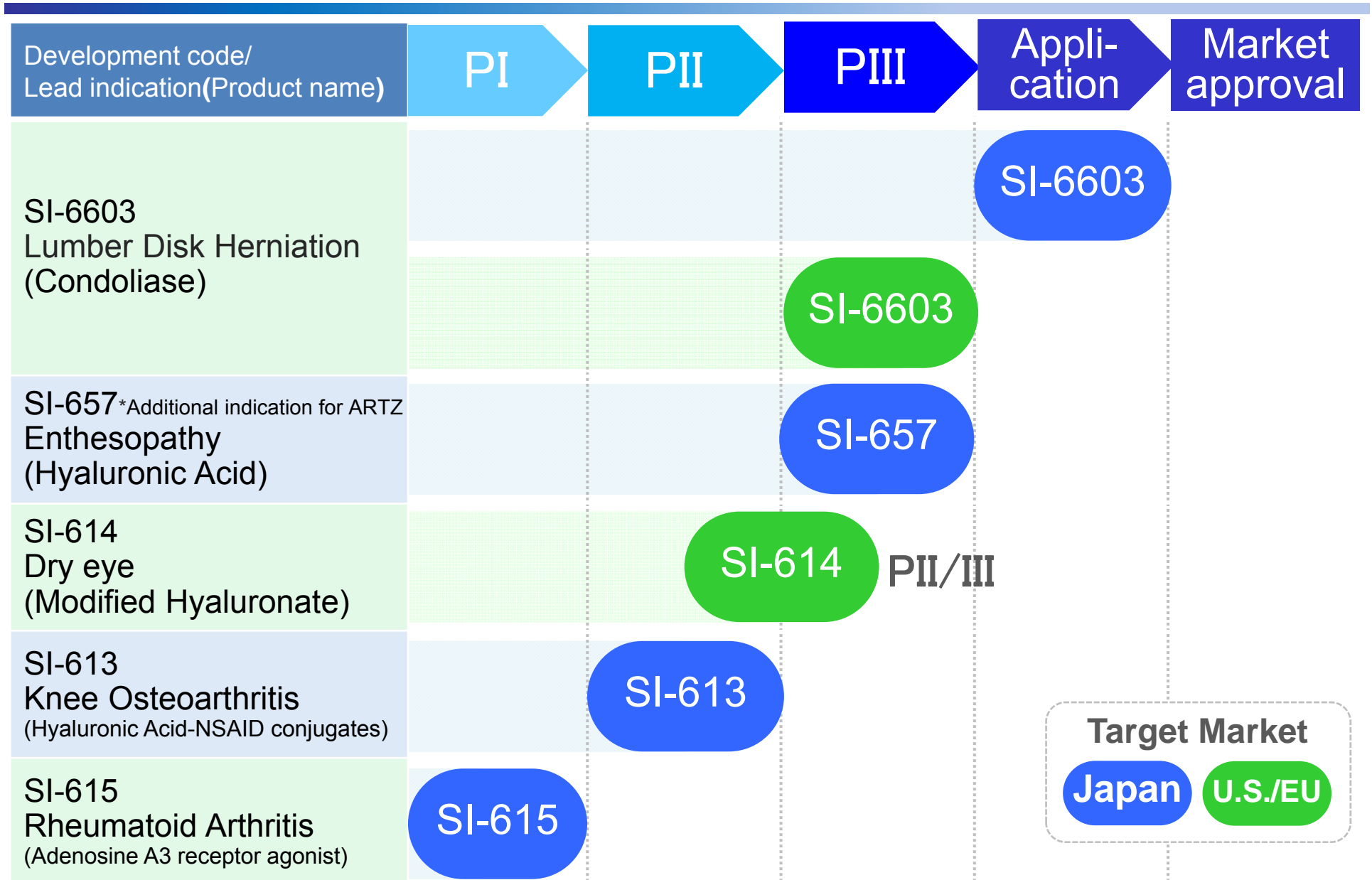


# Basic Policy on Research and Development

- Aiming for the rapid, continuous introduction of new products that meet high treatment needs, focusing on glycoscience as an area of specialization.



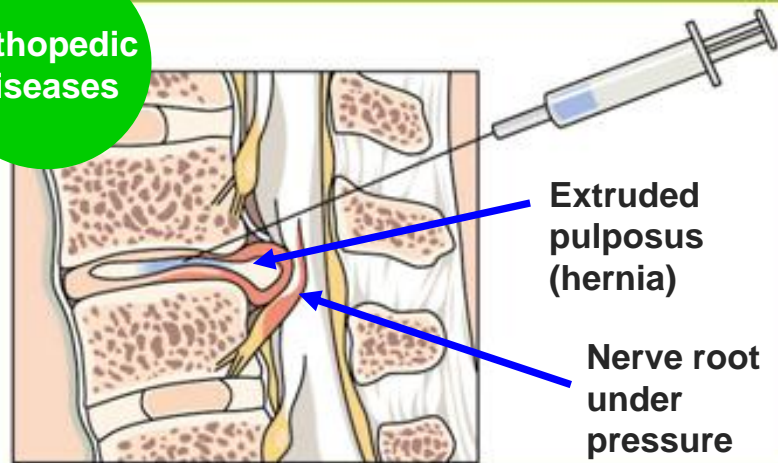
# Pipeline List



# SI-6603 Outline (treatment of lumbar disc herniation)

Reduces nerve pressure and alleviates pain by shrinking

Orthopedic diseases



- **Substance: Condoliase**
- **Indication: Lumbar disc herniation**
- **Method of use: Injection into lumbar disc (under X-ray observation)**

## Features:

- Pain alleviated by reducing hernia-related nerve pressure through the specific degradation of GAGs (chondroitin sulfate, etc.), which are the main components of the nucleus pulposus
- No breakdown of proteins, so no effect on other tissues (blood vessels, nerves, etc.)
- Single-injection treatment with SI-6603 expected to become an alternative to surgery

## Japan : NDA filed

- **January 2014: NDA filed, examination ongoing**
- Trial results announced at three academic conferences:
  - Jun. 2014: 41st ISSLS Annual Meeting (Seoul)
  - Nov. 2014: NASS 29th Annual Meeting (San Francisco)
  - Apr. 2015: 44th Japanese Society for Spine Surgery and Related Research Annual Meeting (Fukuoka)

## U.S. / EU : PIII

- October 2013: Case registration started
- **April 2015: Open-label for the purpose of safety evaluation started**

# SI-657 Outline(an additional indication for ARTZ)

Exerts an inhibitory action to improve symptoms of enthesopathy

Japan : PIII

- January 2015: Follow-up observation completed  
⇒Data analysis currently underway

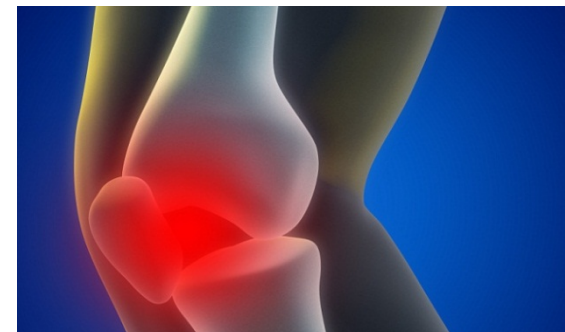
Orthopedic diseases



- Lateral epicondylitis (tennis elbow)



- Achilles tendinitis
- plantar fasciitis



- patellar tendinitis (jumper's knee)

- Substance: Hyaluronic acid (additional indication for ARTZ®)
- Indication : Enthesopathy (targets; four conditions)
- Development: Joint development with Kaken Pharmaceutical

Estimated annual number of patients (total for four conditions) :  
About 570,000

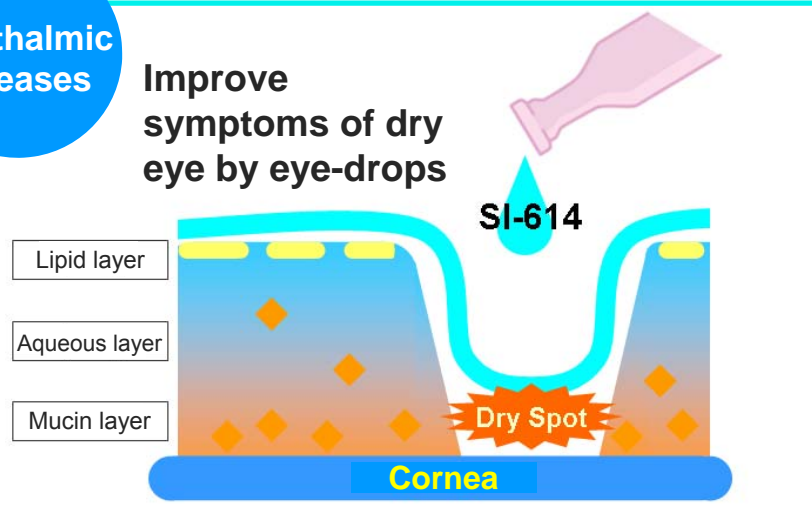
The aim is to contribute to symptom improvement in more patients by further increasing the added value of ARTZ

# SI-614 Outline (treatment of dry eye)

Improves symptoms of dry eye by protecting the ocular surface and promoting corneal epithelial wound healing

Ophthalmic diseases

Improve symptoms of dry eye by eye-drops



- Substance : SI-614 (Modified Hyaluronate)
- Indication : Dry eye
- Formulation : Ophthalmic solution

U.S. / EU : PII/III

- January 2015: Phase II/III clinical trials completed  
⇒ Next phase trial being considered

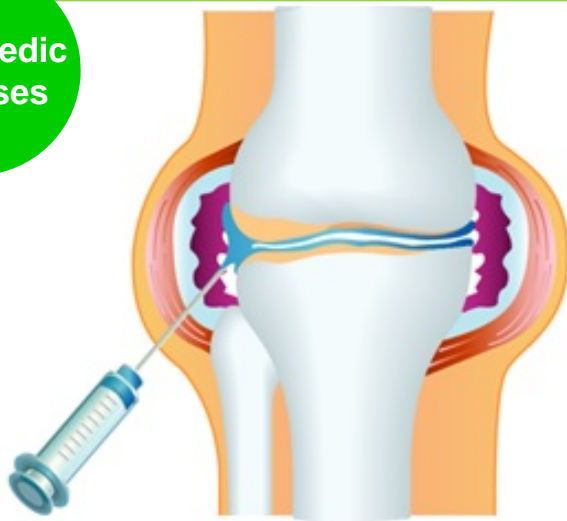
## Features :

- SI-614 is a modified hyaluronate produced by Seikagaku's proprietary technology.
- It is expected to improve symptoms of dry eye by protecting the ocular surface and promoting corneal epithelial wound healing in dry eye patients.
- Although dry eye is a multifactorial disease, only an anti-inflammatory drug is available in the U.S. currently. SI-614 will provide a new alternative to the treatment of dry eye through the promising mode of action

# SI-613 Outline (treatment of knee osteoarthritis)

Prompt and long-term relief of severe pain and inflammation associated with knee osteoarthritis

Orthopedic diseases



- **Substance: SI-613**  
(Hyaluronic acid-NSAID<sup>\*1</sup> conjugates)
- **Indication: Knee Osteoarthritis**
- **Formulation: Injection into knee joint**

## Japan : PII

- October 2014: Submission of notification of a phase II trial (multiple dose study)
- **December 2014: Case registration started**

### Features:

- Hyaluronic acid combined with NSAID<sup>\*1</sup> for relief of severe pain and inflammation of OA using Seikagaku's unique technology
- Sustained-release<sup>\*2</sup> of the NSAID for long-term improvement of severe pain and inflammation
- Minimal side effects compared to oral or topical treatment of the NSAID
- Aiming global deployment including Japan and U.S.

\*1 NSAID: Non-Steroidal Anti-Inflammatory Drug

\*2 Sustained release: Gradual release of active ingredients to produce a sustained therapeutic effect over a long period

# Ten-Year Vision and Mid-term Management Plan

Ten-Year Vision “Global Category Pharma”  
Converge major R&D resources on Glycoscience and  
establish global competitiveness

**ACT for the future**

**A**dvance · **C**hallenge · **T**ransparency

**Cultivation of new leads**

for Achieving  
the Ten-Year Vision

Fostering of basic corporate  
strength and development  
of core systems

**Step 1**

FY2009 ~ 2011

**Step 2**

FY2012 ~ 2015

**Vision realization**

**Step 3**

FY2016 ~ 2018

# Basic Policy on Profit Distribution

## ● Dividends

Aim for stable and continuous dividends with a basis of an annual dividend of ¥26 per share.

## ● Internal Reserve

Appropriated for R&D, and capital investment, etc., in accordance with medium-to-long term perspective

## ● Flexible Capital Policy

Share buy-back is an option for improving capital efficiency

	FY2011	FY2012	FY2013	FY2014	FY2015 (Forecast)
Net Income per share	¥57.58	¥57.33	¥83.55	¥64.27	¥51.05
Annual Total Dividend	¥25.00	¥25.00	¥26.00	¥26.00*	¥26.00
Dividend Payout Ratio	43.4%	43.6%	31.1%	40.5%*	50.9%

\*Year-end dividend of ¥13 per share to be decided at the general meeting of shareholders on June 2015.

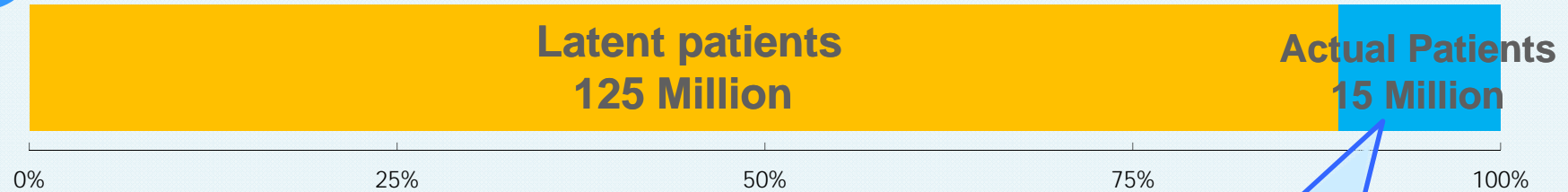


# Appendix

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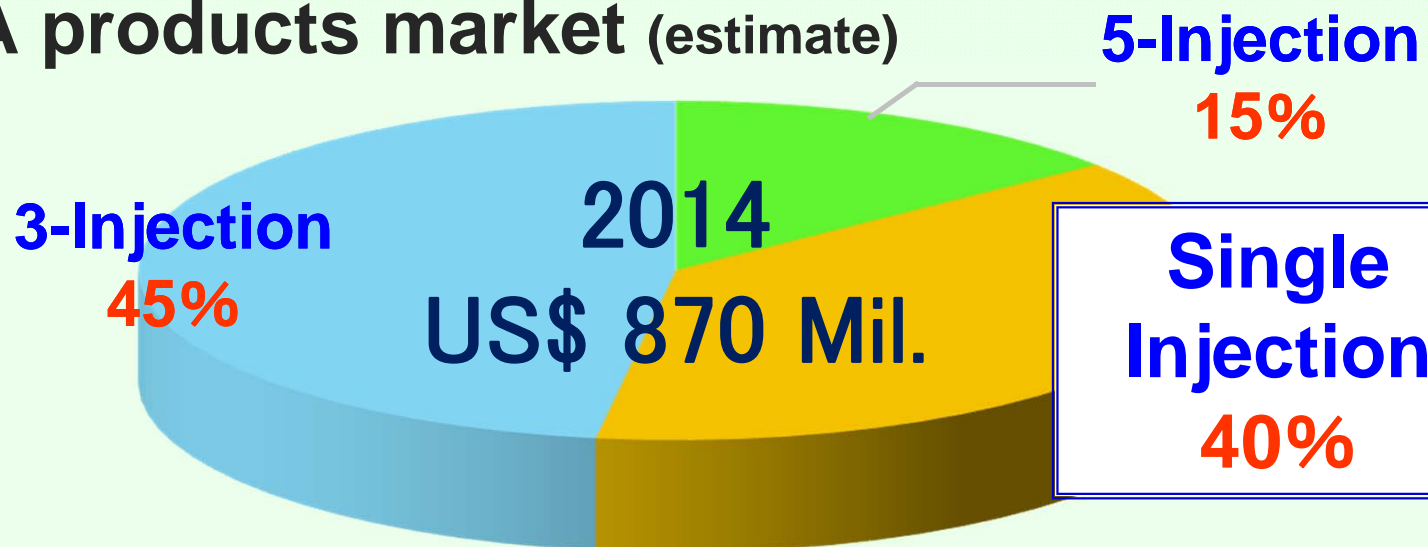
# U.S. Market for HA Products

## Number of osteoarthritis patients (estimate)



Ratio of patients using HA products is less than 10% of patients receiving any treatment for osteoarthritis.  
⇒ There is large room to expand.

## HA products market (estimate)

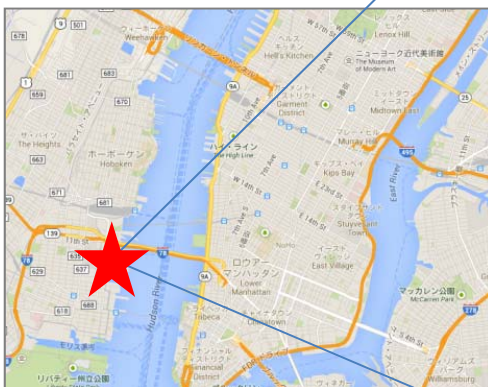


\* Numbers in this slide are estimated by Seikagaku

# Opening of the SEIKAGAKU U.S.A. Representative Office



## SEIKAGAKU U.S.A. Representative Office



Jersey City, NJ



Single-injection product Gel-One®



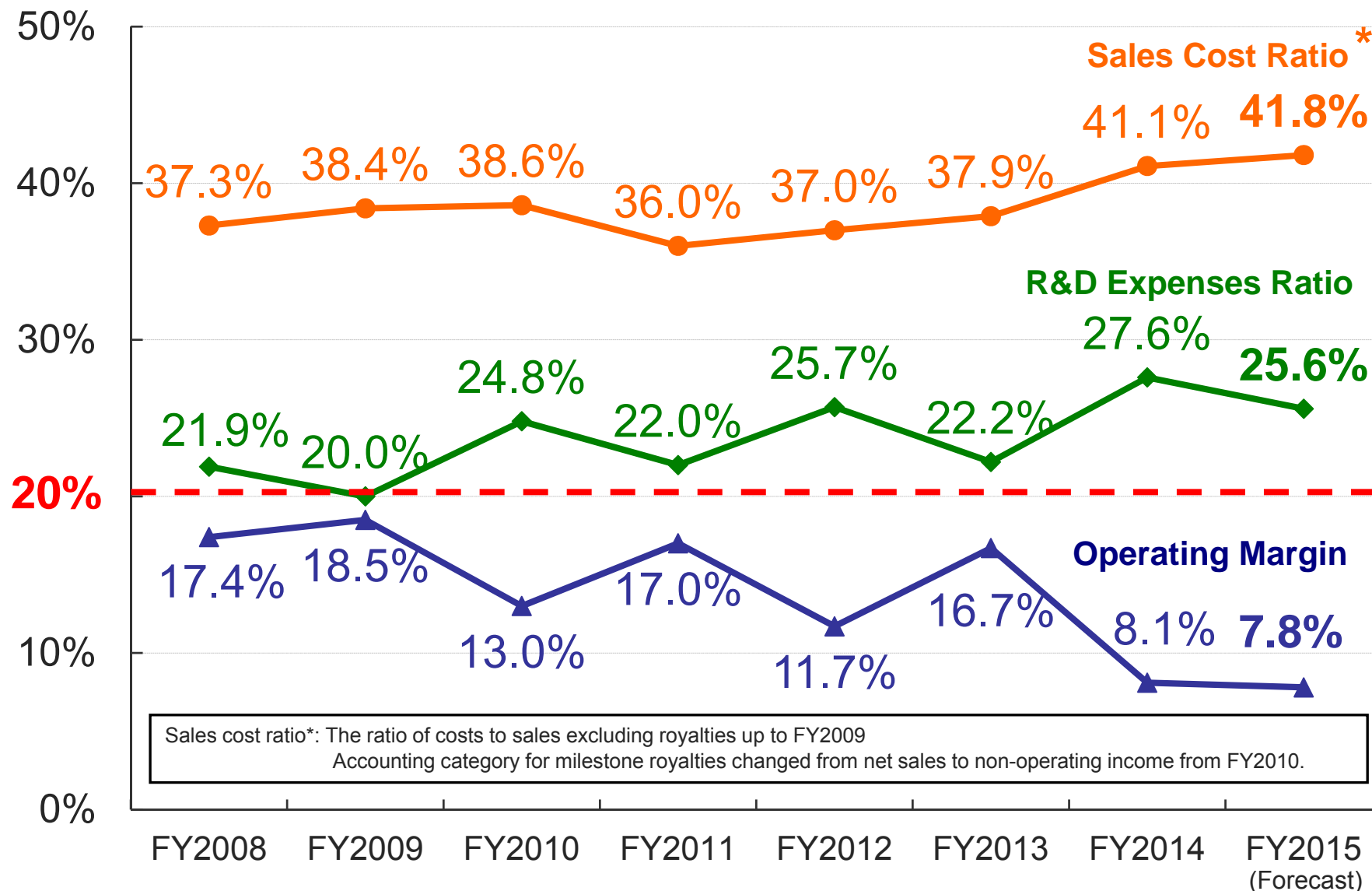
Multiple-injection product  
SUPARTZ®

### ◆ Overview of the Representative Office ◆

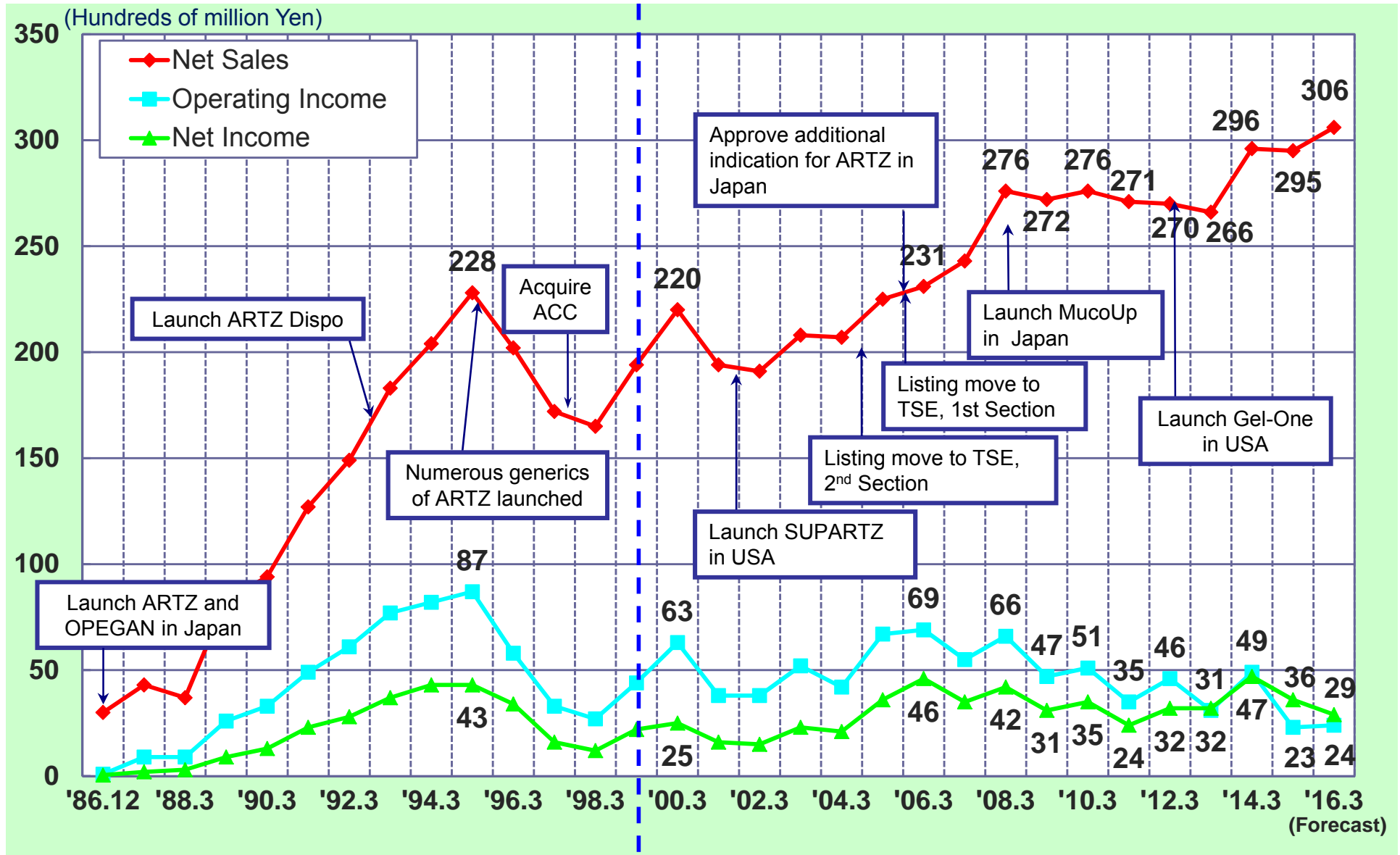
- ◆ Date of opening: October 15, 2014 (local time)
- ◆ Purpose: Provision of product education to local sales reps, gathering of information on the U.S. market

**○ Further acceleration of sales of Gel-One® and SUPARTZ® through reinforcement of support for sales activities**

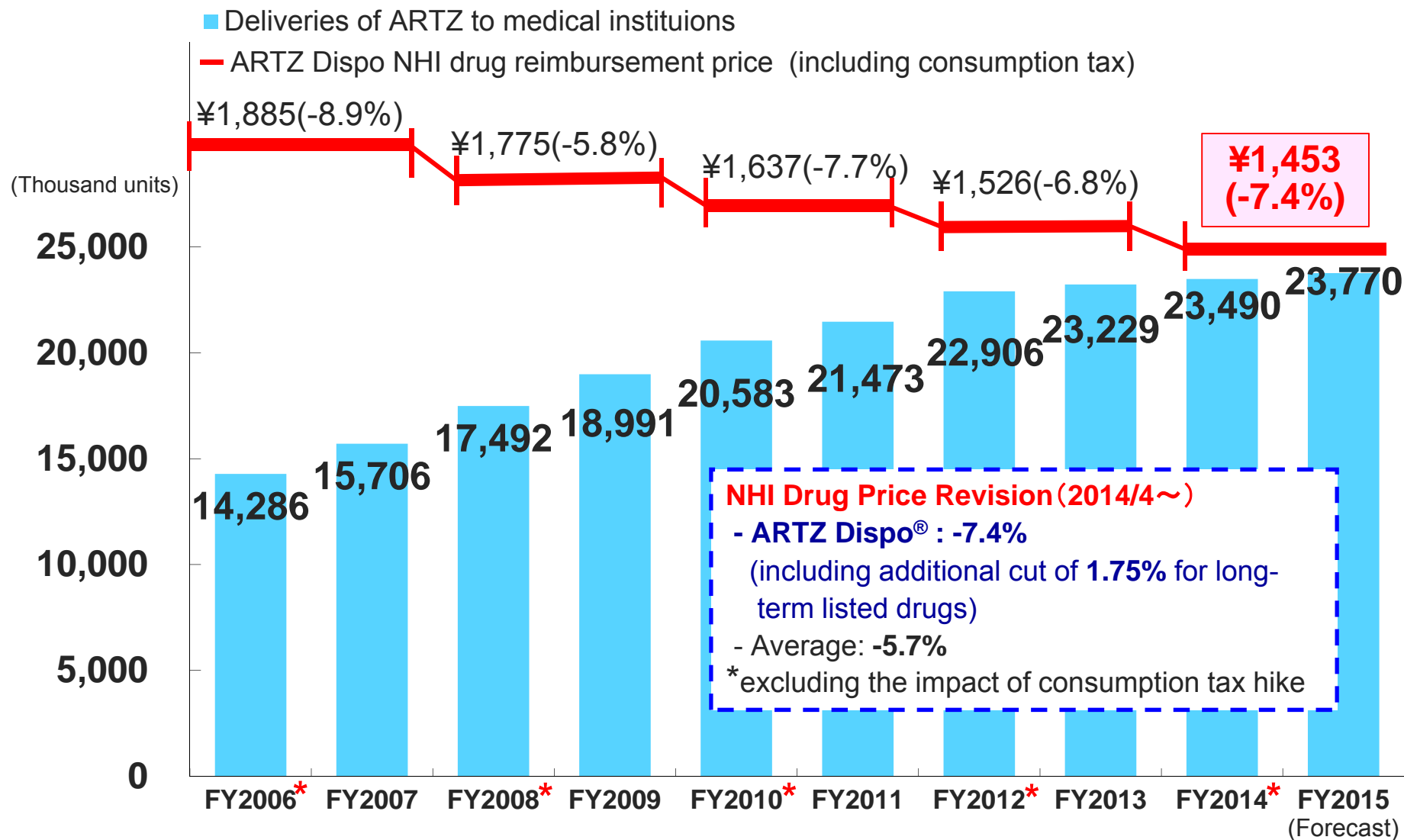
# Trend in Financial Index



# Business Progress & Highlights



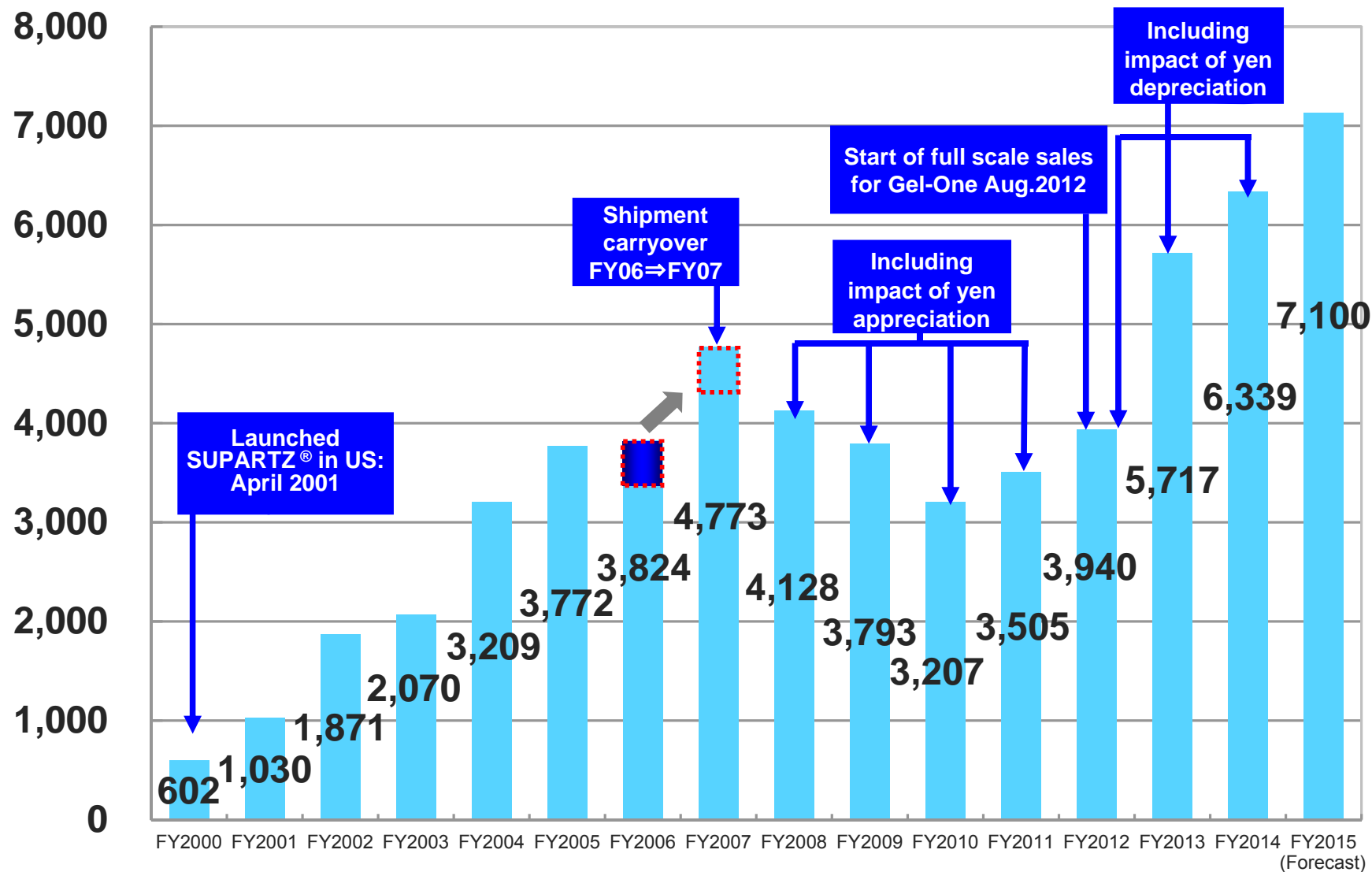
# Trend in NHI Reimbursement Price and Trend in Deliveries of ARTZ to Domestic Medical Institutions



**\* NHI drug price reduction**

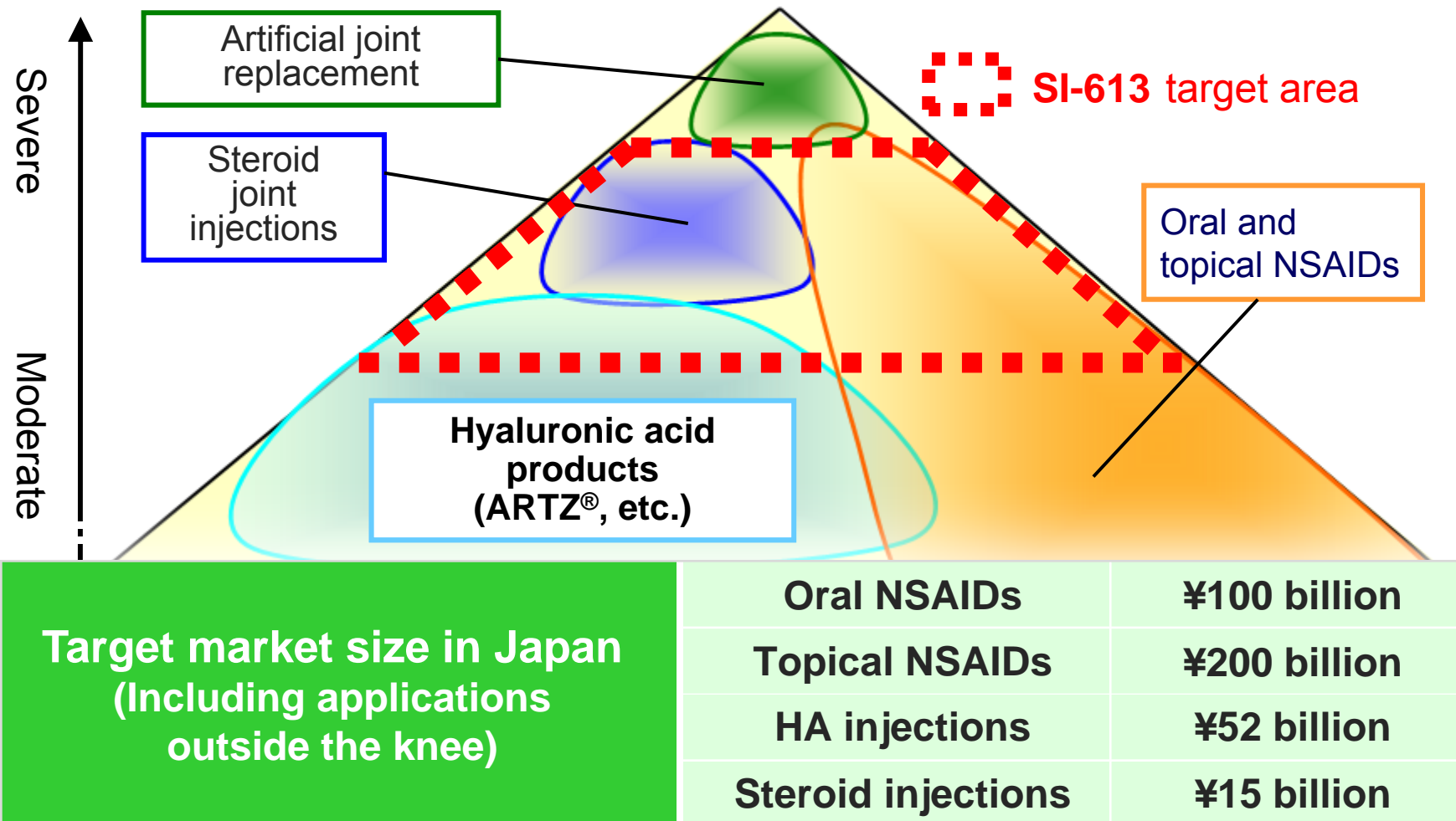
# Trend in Overseas Sales of Hyaluronic Acid Products

(Millions of Yen)



# SI-613 Target Patients

Patients with severe pain and being treated with oral or topical NSAIDs or intra-articular steroid injection

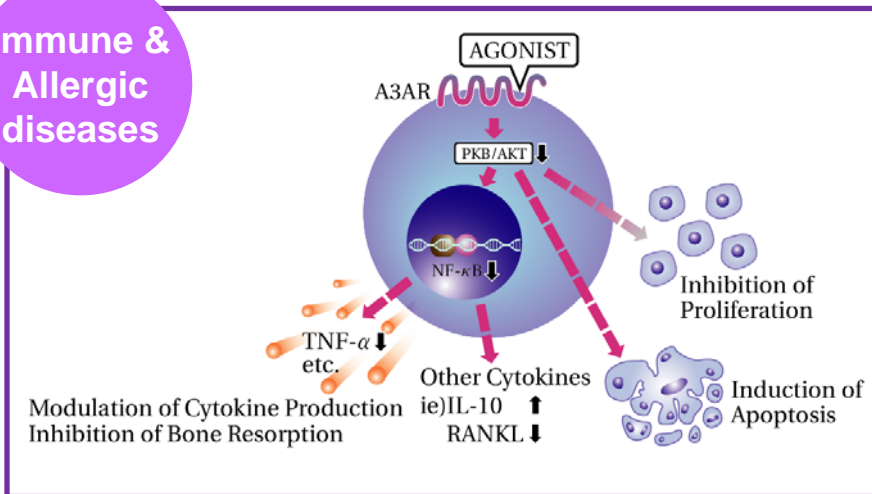




# SI-615 Outline (treatment of rheumatoid arthritis)

## Oral agent for rheumatoid arthritis in-licensed from Can-Fite

Immune & Allergic diseases



- **Substance: Adenosine A3 receptor agonist**
- **Indication : Rheumatoid arthritis**
- **Formulation : Oral agent**

### Features:

- In-license theme from Can-Fite BioPharma Ltd.
- Adenosine A3 receptor agonist selectively stimulates the adenosine A3 receptor, which is highly expressed in inflamed sites. It is thought to suppress cellular signal transduction, which contributes to inflammation, and the production of inflammatory cytokines.

### Japan: PI

- May 2009: Phase I single administration clinical trial completed

### Europe: PIIb

#### Implemented by Can-Fite

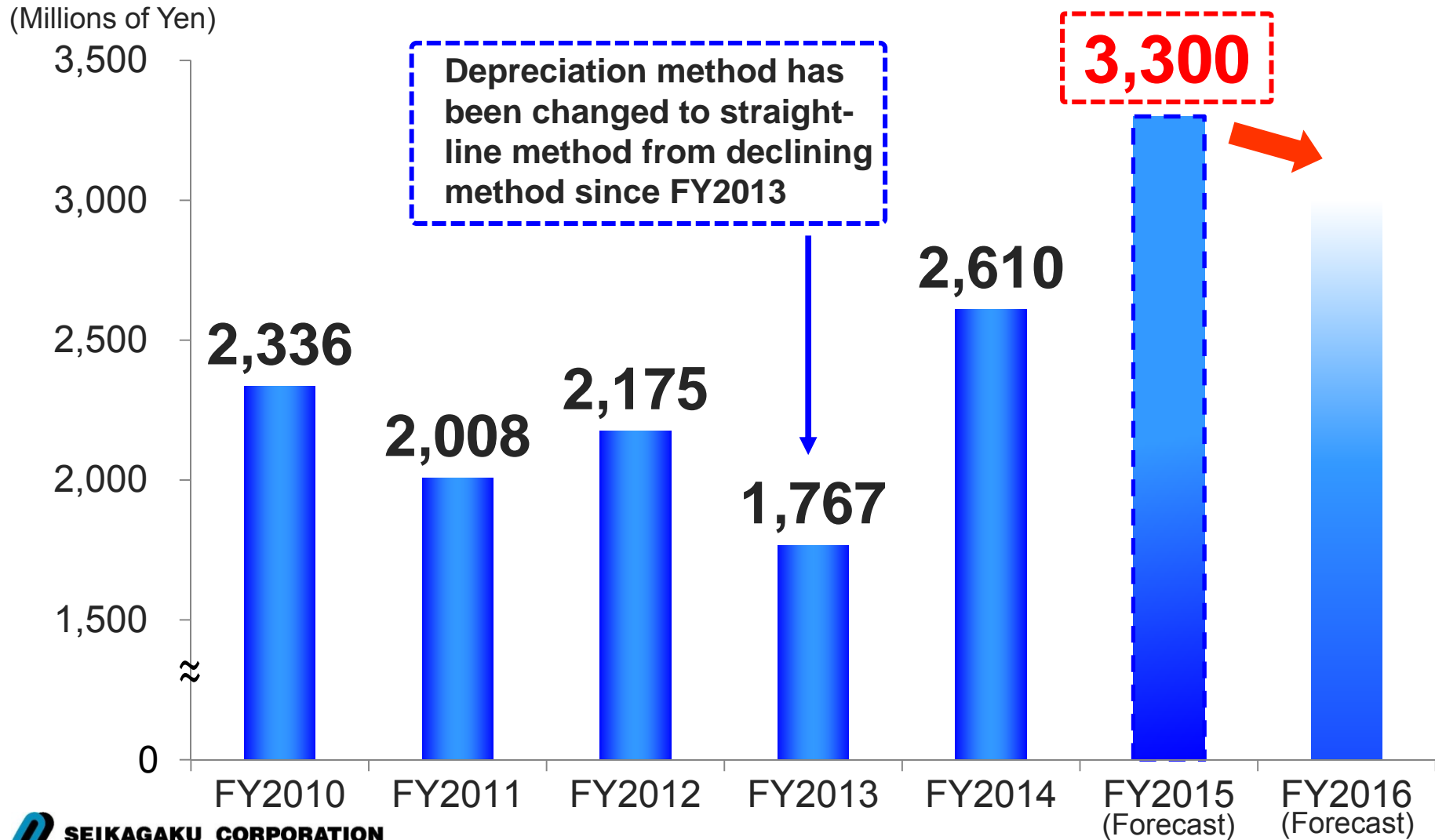
- Seikagaku will reassess its future development policy based on results from the PIIb mono-therapy implemented by the licensor, Can-Fite.

# Trend in Capital Investments

Facilities	Amounts (¥ bill.)	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015 (Forecast)
SI-6603 Bulk Production Facilities	1.1					Start '14.10	
No. 5 Production Building (for ARTZ Dispo®)	9.6		Start '12.3				Operation '15.1
Hyaluronic Acid Bulk Production Facilities	3.1		Start '12.1			Operation '14.2	
Facilities for Gel-One®	3.0		Start '11.12			Operation '13.10	
Chondroitin Sulfate Bulk Production Facilities	1.2		Start '11.6		Operation '12.7		
<b>Amounts (Millions of Yen)</b>		<b>1,306</b>	<b>5,718</b>	<b>9,164</b>	<b>7,222</b>	<b>2,095</b>	<b>2,600</b>

# Trend in Depreciation

Depreciation will peak with ¥3,300 million at FY2015 by active capital investments



# Special Profile

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**1<sup>st</sup>**

## **Specialization in glycoscience**

- Niche field, market not big enough for the major pharmaceutical companies to penetrate
- Focusing on this field more than **60 years**

**2<sup>nd</sup>**

## **Unique business model**

- Concentration on **R&D** and **manufacturing**
- R&D staff comprising **one-third** of our total employees
- Allocation of over **20%** of net sales to R&D investment

**3<sup>rd</sup>**

## **High-level extraction & purification technologies**

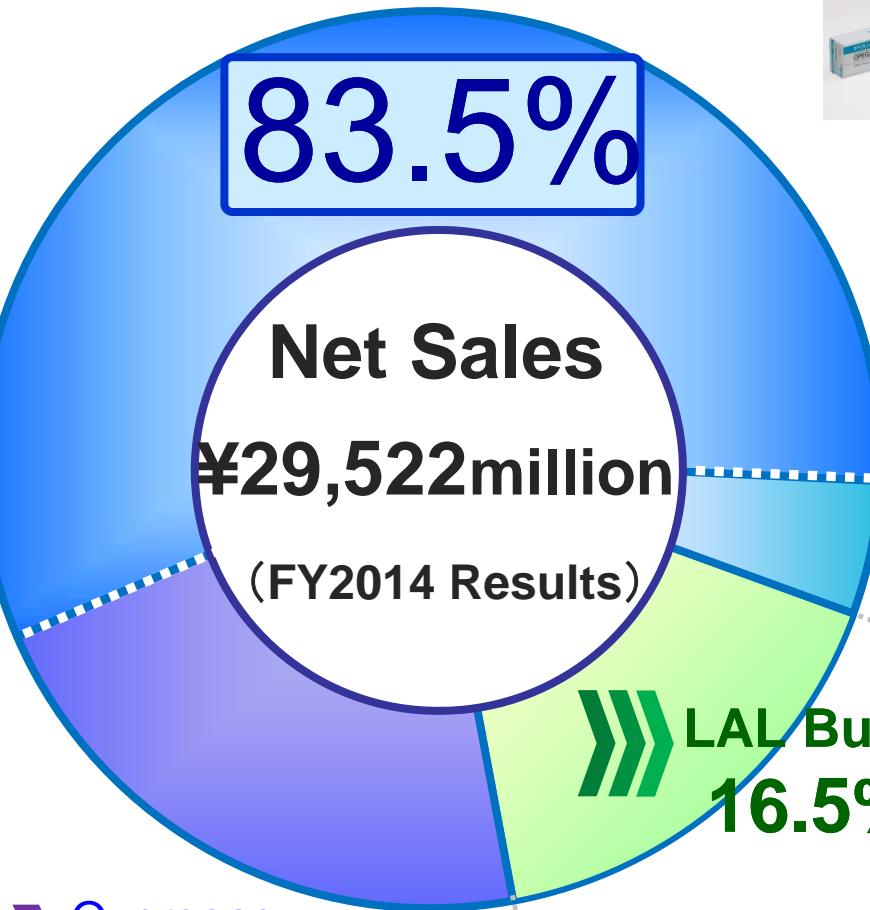
- ARTZ<sup>®</sup> (main product) has been administered in more than **360 million** injections without major side effects over more than **25 years**

# Our Business Segment

## Pharmaceutical Business

Domestic  
Pharmaceuticals  
⇒57.2%

Joint Function  
Improving Agents



Overseas  
Pharmaceuticals  
⇒21.5%

Ophthalmic Surgical Aids



Surgical Aids for Endoscopic  
Mucosal Resection



Bulk Products  
⇒4.8%

Bulk Products



**LAL Business**  
**16.5%**

Endotoxin-detecting reagents  
(used mainly for quality control of  
pharmaceuticals and medical devices)



# Main Hyaluronic Acid (HA) Products

## **ARTZ®** Knee osteoarthritis (OA) pain relief by multiple injections

- The first HA joint function improving agent in the world
- Main distributors:

Kaken Pharmaceutical (Japan): ARTZ®

Bioventus (U.S.): SUPARTZ®

Kunming Baker Norton Pharmaceutical (China): ARTZ®



## **Gel-One®** Knee OA pain relief by a single injection

- Requires only 3ml to be as effective as multiple injections
- Full-scale sales since August 2012
- Distributor: Zimmer (U.S.)



## ***Exploring the Innovative Promise of Glycoscience***

### **Cautionary statement regarding forward-looking information**

This material includes forward-looking statements based on assumptions and beliefs in light of the information currently available to management and subject to significant risks and uncertainties. Actual financial results may differ materially depending on a number of factors including adverse economic conditions, currency exchange rate fluctuations, adverse legislative and regulatory developments, delays in new product launch, pricing and product initiatives of competitors, the inability of the company to market existing and new products effectively, interruptions in production, infringements of the company's intellectual property rights and the adverse outcome of material litigation.

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**SEIKAGAKU CORPORATION**