



Seegene 2017 Investor Relations

2017. 4

Seegene Overview

Overview of Seegene

- CEO/CTO: Dr. Jong-Yoon Chun
- Established: Sept. 15, 2000
- Listed on KOSDAQ: Sept. 10, 2010
- Paid-in capital: KRW 13,117mn (as of Dec. 31, 2016)
- Number of employees: 266 (as of Dec. 31, 2016)
- Business area: Molecular Diagnostics(MDx)
- Key proprietary MDx technologies
: DPO™(2004), TOCE™(2011), MuDT™(2015)

Major Products

MDx Reagents



- Respiratory Infection
- Gastrointestinal Infection
- Women's Health
- Other Infections disease

Instruments (OEM or re-sale)



Nimbus (Hamilton)



STARlet (Hamilton)

OEM

[Extraction]



CFX96 (Bio-Rad)

Re-sale

[Real-time PCR]

Global Network

- Headquarter: Seoul, South Korea
- Foreign subsidiaries: Italy, Dubai, US, Canada
- Branch office : Germany
- Joint Venture: Mexico
- Supplying reagents/instruments through 82 agencies
 - 21 distribution agencies in Korea
 - 61 distribution agencies in 55 overseas markets

Foreign subsidiaries & Branch office



Industry Overview

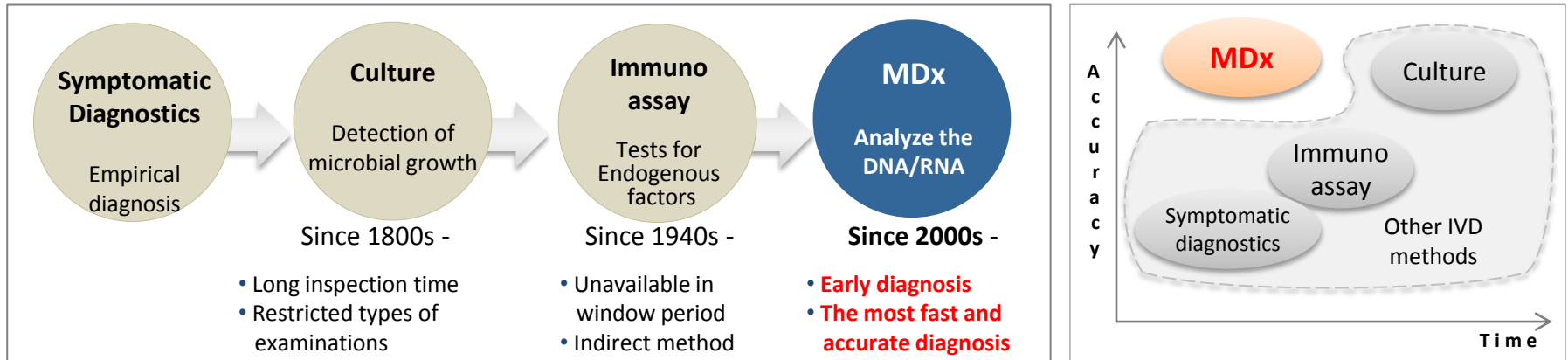
The image features a 3D model of a DNA double helix on the right side, rendered in blue and white. The background is a light blue gradient with abstract, flowing, translucent shapes that suggest a scientific or biological theme. The text 'Industry Overview' is centered in a bold, black, sans-serif font.

IVD Market

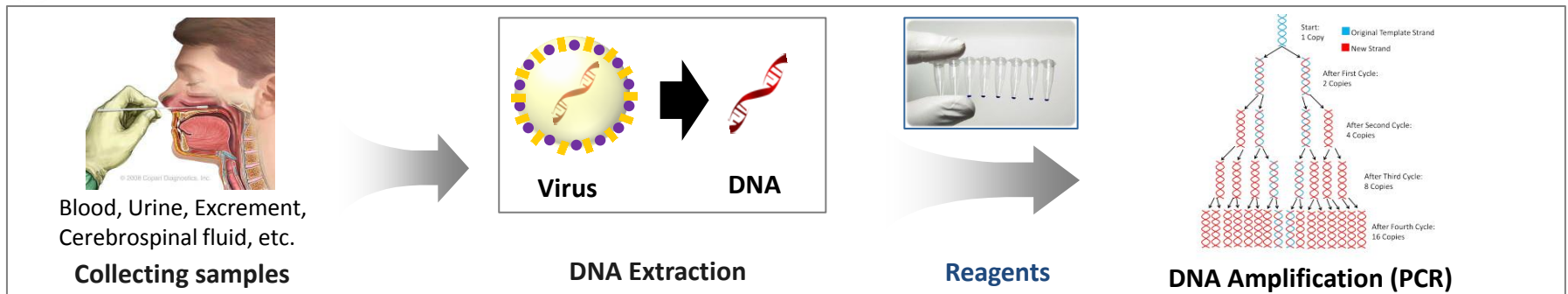
Classification of Diagnostics Methods

- In vivo Diagnostics : Analyze the health status inside of the human body. ex) X-ray, CT, MRI
- In vitro Diagnostics : Analyze the specimens derived from the body such as blood, urine etc.

Evolving IVD Method



Process of MDx



MDx Market Trend

Market Size of IVD & MDx Industry

Classification		Market Size					CAGR (%)	
		`12	`13	`14(E)	`15(E)	`16(E)		`17(E)
Global IVD Market (Unit : USD bn)		45.7	48.7	52.2	55.9	60.1	64.7	7.2
MDx Market	Global (Unit : USD bn)	5.0	5.6	6.3	7.2	8.1	9.1	12.6
	Korea (Unit : KRW bn)	57.7	64.9	73.0	82.6	93.5	106.4	13.0

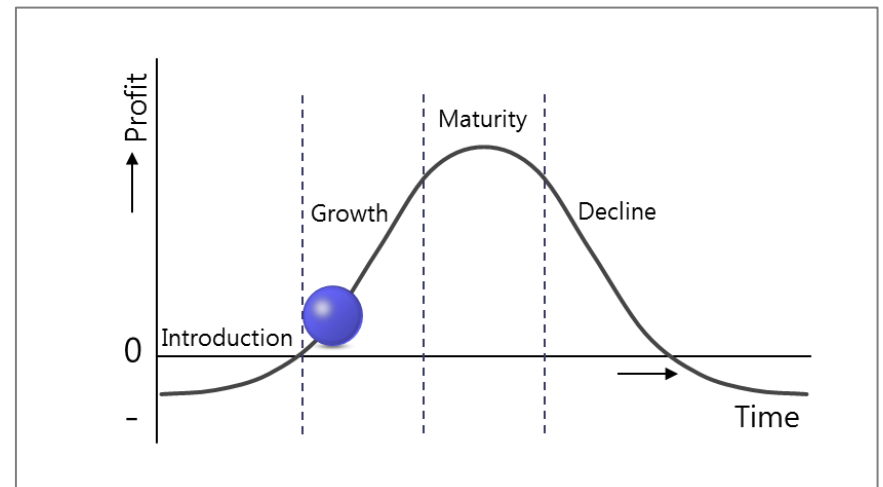
[Source] Analysis of the Global In Vitro Diagnostics Market, Frost & Sullivan(2013), Analysis of the Asia-Pacific Molecular Diagnostics Market, Frost & Sullivan(2013)

Application Fields of Molecular Diagnostics

Classification		Share
Infectious disease		63%
Non-infectious disease	Cancer	20%
	Genetic disorder	9%
	Pharmacogenomics	8%

[Source] Molecular Diagnostics: Market Segmentation and Opportunities October 2010, DeciBio, Frost & Sullivan (2013)

MDx Industry Life Cycle



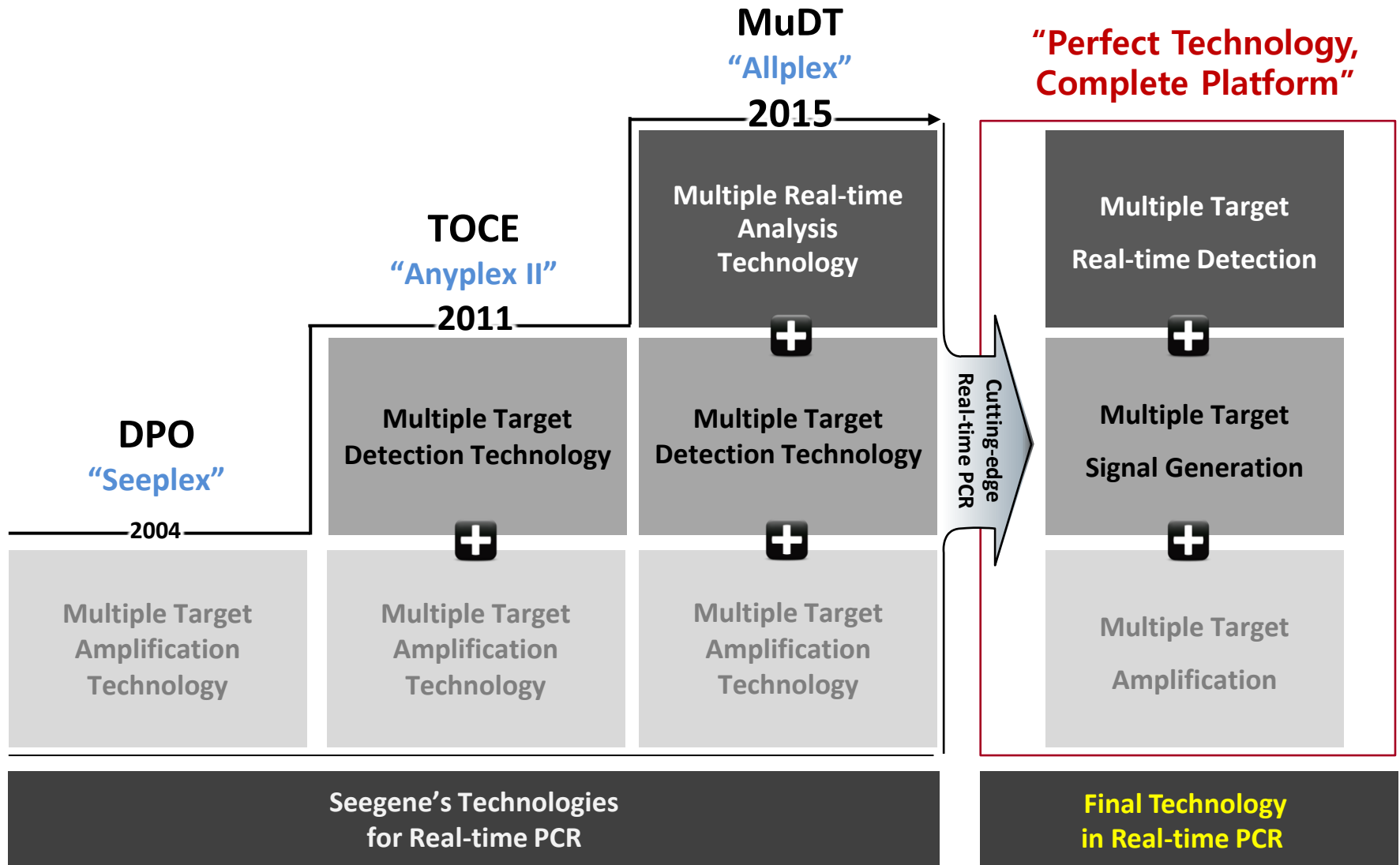
Competitive Positioning of Real-time PCR Technology

Patent	DNA amplification technologies	Companies	Homogeneous (Closed System)	Multiplex (> 10-plex)	SNP (> 10 point mutations)	Quantification (> 10 analytes)
1983	PCR	Roche				
1989	bDNA	Siemens	→			
1989	Line Probe	Fujirebio	→			
1990	TaqMan	Roche	→			
1991	NASBA	bioMerieux	→			
1992	SDA	BD	→			
1993	Hybrid Capture	Qiagen	→			
1995	TMA	Hologic	→			
1995	Invader	Hologic	→			
1996	Molecular Beacon	PHRI	→			
1997	Hyb Probe	Roche	→			
1999	Scorpions	Qiagen	→			
1999	Bead Technology	Luminex	→			
2011	TOCE	Seegene	→			
2014	MuDT	Seegene	→			

Technology Overview & Products

A 3D rendering of a DNA double helix structure, colored in shades of blue and white, set against a light blue background with abstract, flowing shapes.

Technological Perfection of Real-time PCR



Commercialized Multiplex Product Line & Global Certification

Global Certification

Korea(MFDS)	EU(CE-IVD)	Canada(Health Canada)	Australia(TGA)	U.S.(FDA)
63 items <ul style="list-style-type: none"> • Allplex : 3 • Anyplex : 17 • Seeplex : 26 • Other : 17 	52 items <ul style="list-style-type: none"> • Allplex : 12 • Anyplex: 18 • Seeplex: 15 • Other : 7 	10 items <ul style="list-style-type: none"> • Allplex : 6 • Anyplex: 1 • Seeplex: 3 	24 items <ul style="list-style-type: none"> • Allplex : 11 • Anyplex: 10 • Seeplex: 3 	1 items <ul style="list-style-type: none"> • Anyplex : 1

※ Certified in other 19 countries

Approval status of Allplex™ assays

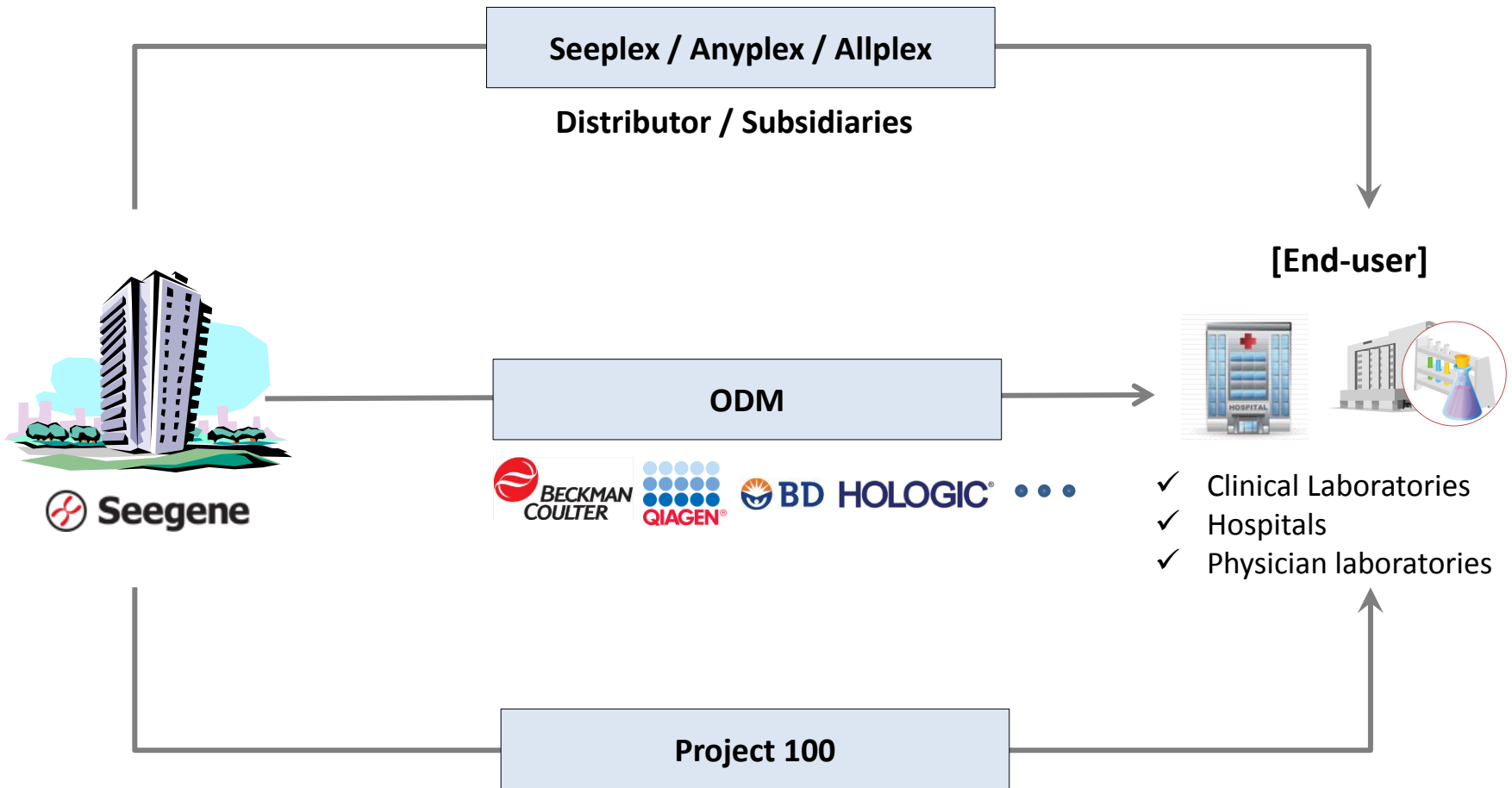
Line-up	Products	EU(CE-IVD)	Canada(Health Canada)	Australia(TGA)	Korea(MFDS)
Respiratory Infection	Allplex™ RP1	●	●	●	●
	Allplex™ RP2	●	●	●	●
	Allplex™ RP3	●	●	●	●
	Allplex™ RP4	●	○	●	◐
Gastrointestinal Infection: GI	Allplex™ GI1	●	●	●	◐
	Allplex™ GI2	●	◐	●	◐
	Allplex™ GI3	●	◐	●	◐
	Allplex™ GI4	●	●	●	◐
Sexually Transmitted Infection: STI	Allplex™ STI/BV 1	●	○	●	○
	Allplex™ STI/BV 2	●	○	●	○
	Allplex™ STI/BV 3	●	○	◐	○
	Allplex™ STI/BV 4	●	○	○	○

● Cleared ● Cleared in 2H16 ◐ In progress ○ TBD





Business Strategy

A 3D rendering of a DNA double helix structure, colored in shades of blue and white, set against a light blue background with abstract, flowing shapes. The DNA structure is positioned on the right side of the image, extending from the top to the bottom. The background features a light blue gradient with abstract, flowing shapes that resemble a DNA strand or a ribbon, creating a sense of movement and depth. The overall aesthetic is clean and modern, with a focus on scientific and technological themes.

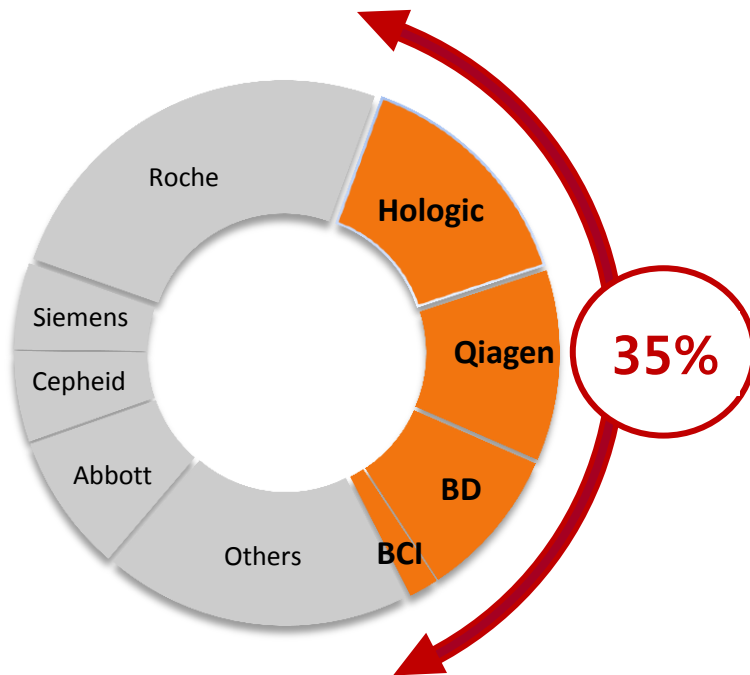
Business Model



ODM Partners

Danaher(Beckman Coulter)	Qiagen	BD(Becton & Dickinson)	Hologic
Contracted in 2014.11.13	Contracted in 2015.07.09	Contracted in 2015.09.15	Contracted in 2016.11.04
<ul style="list-style-type: none"> • No.3 in IVD market (M/S 10.3%) • No.1 in hematology market (M/S 33.3%) 	<ul style="list-style-type: none"> • No.3 in MDx market (M/S 11.6%) • No.1 in HPV test market (M/S over 60%) 	<ul style="list-style-type: none"> • No.4 in MDx market (M/S 9.2%) • No.6 in IVD market (M/S 5.4%) 	<ul style="list-style-type: none"> • No.2 in MDx market (M/S 14.4%) • U.S No1 in CT, NG, HPV, Trichomoniasis test market
 <p>VERIS (2014) (CE-IVD Cleared)</p>	 <p>QIASymphony (2010) (CE-IVD/FDA Cleared)</p>	 <p>BD MAX (2011) (CE-IVD/FDA Cleared)</p>	 <p>Panther Fusion (will be on 2017) (Expansion model of CE-IVD/FDA Cleared Panther system)</p>
 <p>Seegene's Multiplex Assays</p>	 <p>Seegene's Multiplex Assays</p>	 <p>Seegene's Multiplex Assays</p>	 <p>Seegene's Multiplex Assays</p>
 <p>Seegene's Multiplex Assays</p>	<p>• • •</p>	<p>• • •</p>	<p>• • •</p>

ODM Partners



+

Multiplex Assays ...



+

Multiplex Assays ...



+

Multiplex Assays ...



+

Multiplex Assays

+

Multiplex Assays ...

...



DPO + TOCE + MuDT = High Multiplex

“Next Generation Gold standard of MDx PCR”

Financials



Stock Information

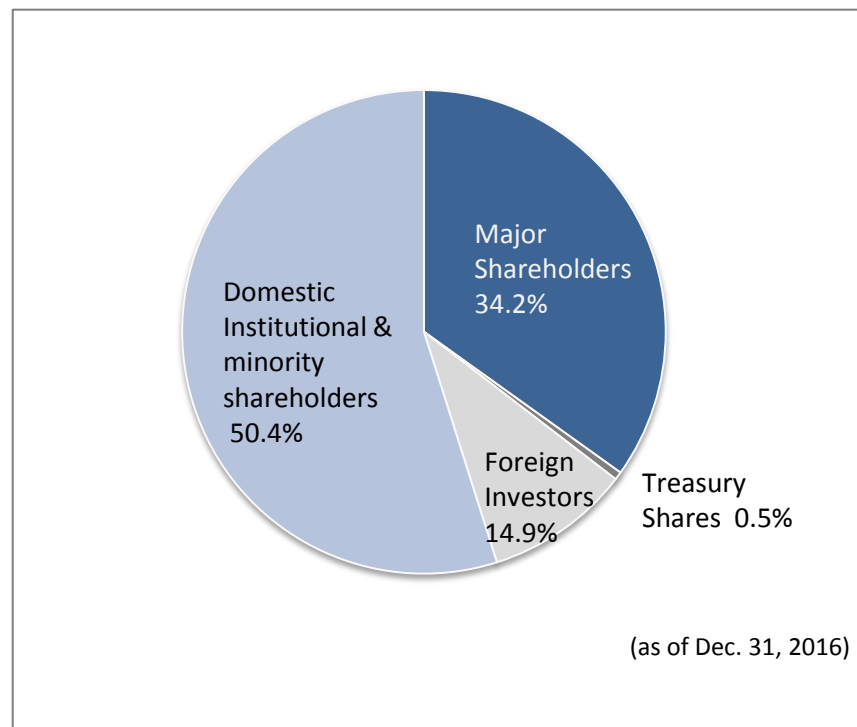
Overview of Stock Information

- Ticker : 096530 KQ
- Shares Outstanding: 26,234,020 (as of Dec. 31, 2016)
- Par value : KRW 500
- Market Cap: KRW 917bn (as of Dec. 31, 2016)
- Stock volume turnover: 104,957 per day
- 52 week High / Low : KRW 40,800 / 29,500

Subsidiaries

Subsidiary	Established
Arrow Diagnostics (Italy)	Jan, 2014
Seegene Middle East (Dubai)	Oct, 2014
Seegene Technologies (USA)	Apr, 2015
Seegene Canada (Canada)	July, 2015
Neo Probe (Korea)	July, 2016

Shareholder Structure



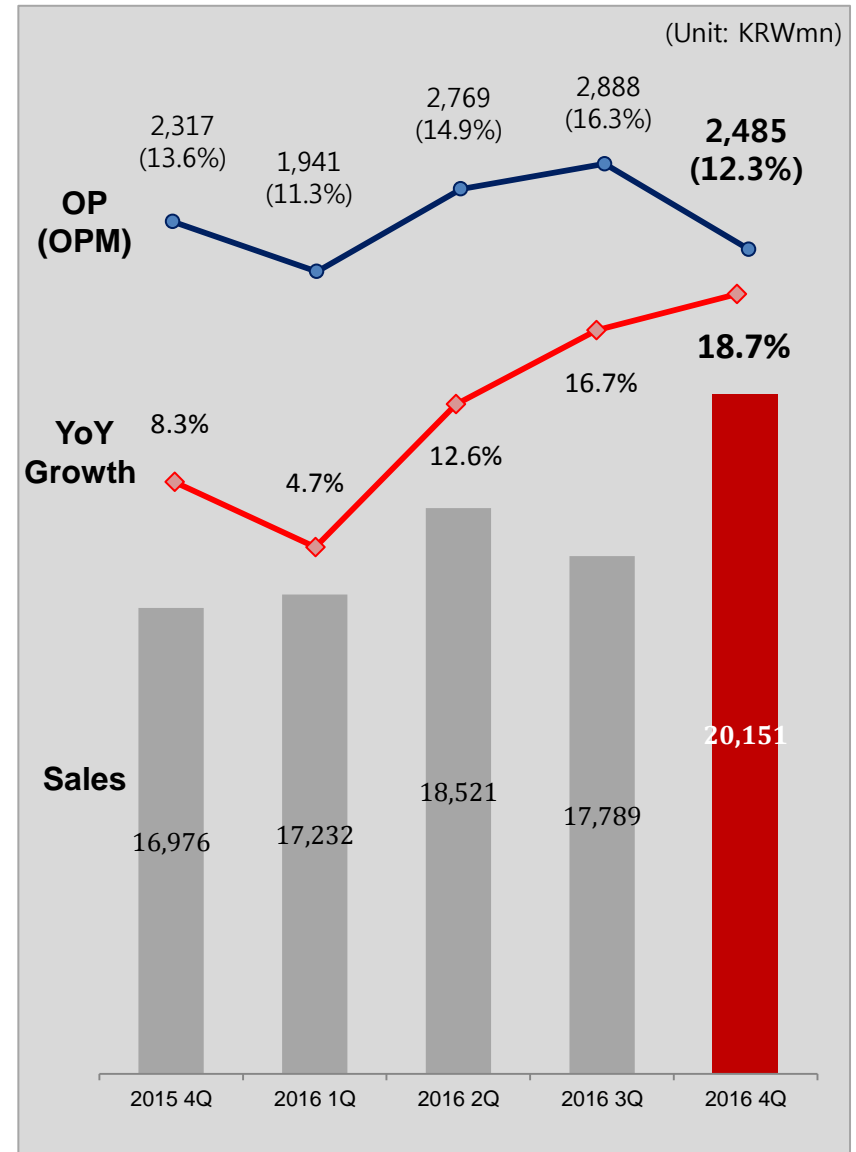
Major Shareholder	Ownership
CEO	18.1%
Related parties	16.1%

Key Figures

2016 Q4 Business Results (Consolidated)

- Quarterly sales surpassed KRW 20bn for the first time
- Upward trend in YoY growth of each quarter
- (Consolidated) OP KRW 2,485mn / OPM 12.3%
- (Separated) OP KRW 2,380mn / OPM 15.3%

(Unit: KRW mn)	4Q16	3Q16	QoQ	4Q15	YoY
Sales	20,151	17,789	13.3%	16,976	18.7%
Gross Profit	13,904	13,072	6.4%	12,185	14.1%
SG&A	11,420	10,184	12.1%	9,868	15.7%
Operating Profit	2,485	2,888	-14.0%	2,317	7.3%
(%)	12.3%	16.2%		13.6%	
Pre-tax Profit	5,660	-351	Turn around	210	2595.2%
(%)	28.1%	-2.0%		1.2%	
Net Profit	4,391	-504	Turn around	70	6172.9%
(%)	21.8%	-2.8%		0.4%	

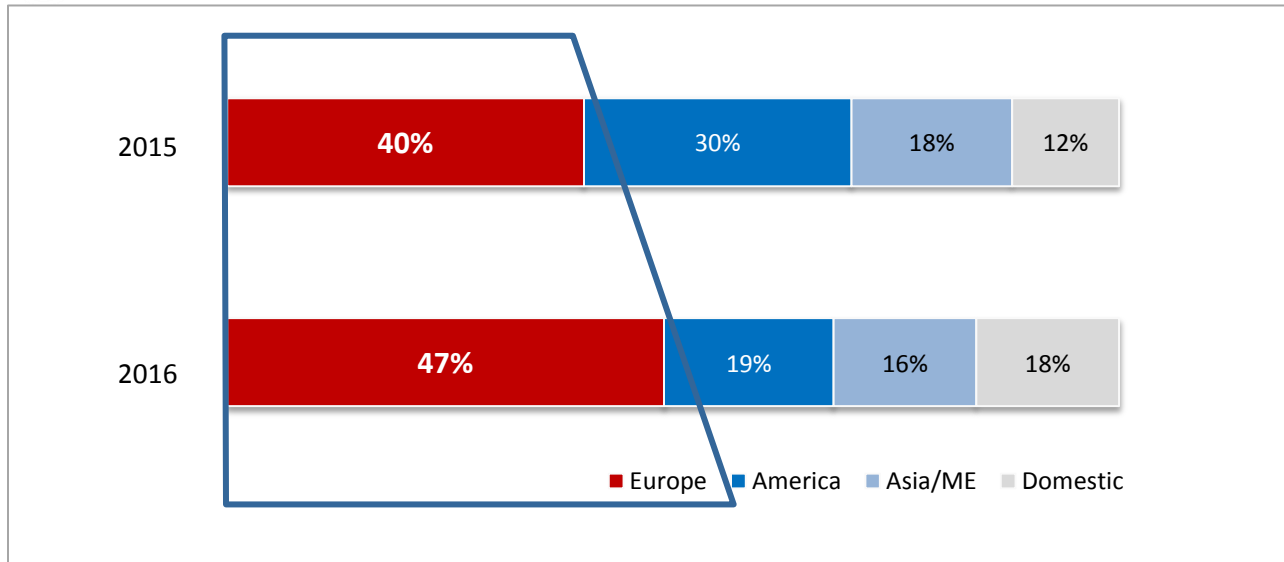


Sales Breakdown

Revenue by Region

(Unit: KRW mn)	4Q'16	3Q'16	2Q'16	1Q'16	4Q'15	QoQ	YoY
Europe	8,933	7,327	10,043	8,693	7,291	21.9%	22.5%
America	3,405	3,519	4,040	2,784	5,387	-3.2%	-36.8%
Asia / Middle East	3,021	3,825	2,455	2,479	2,638	-21.0%	14.5%
Domestic	4,791	3,118	1,983	3,276	1,659	53.7%	188.8%
Total Sales	20,150	17,789	18,521	17,232	16,975	13.3%	18.7%

Regional Sales Trend

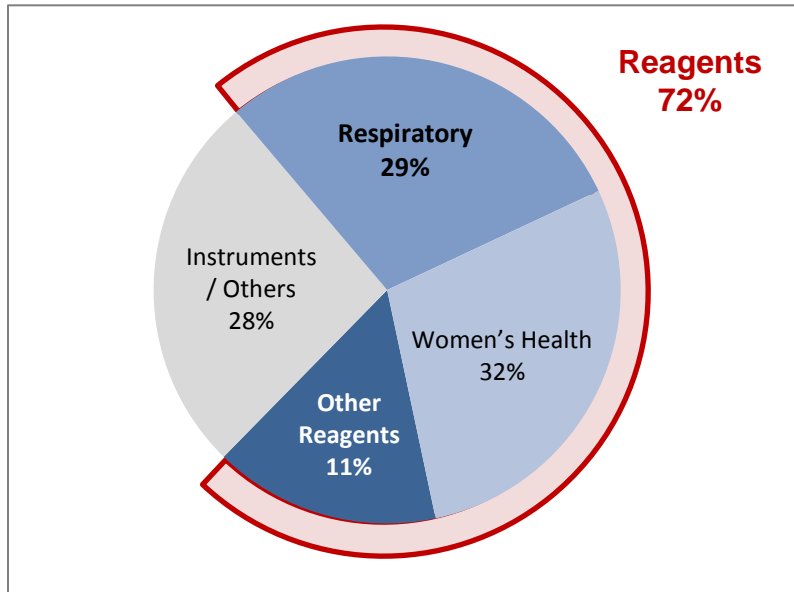


Sales Breakdown

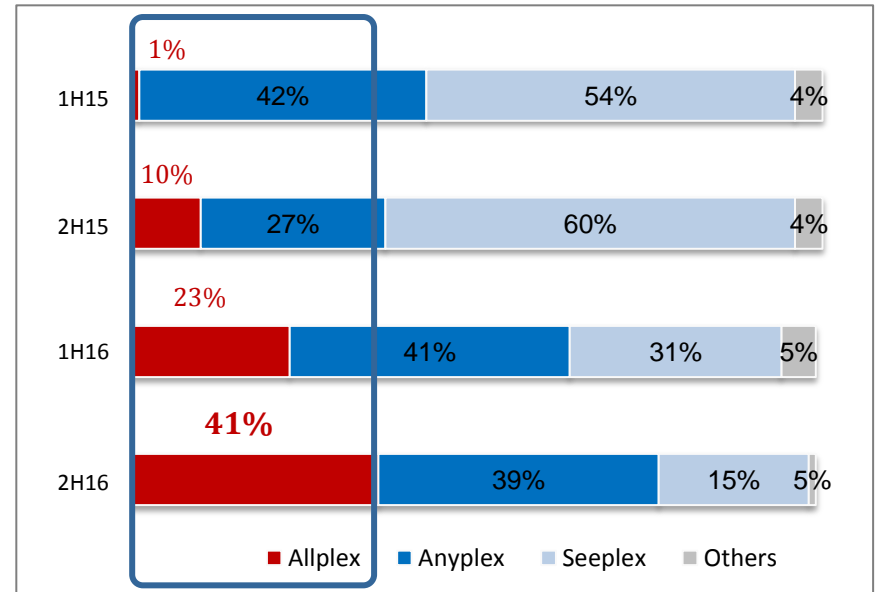
Reagent & Instrument Sales

(Unit: KRWmn)	4Q'16	3Q'16	2Q'16	1Q'16	4Q'15	QoQ	YoY
Reagent Sales	14,968	12,694	13,280	11,782	12,517	17.9%	19.6%
Instrument/Others	5,182	5,095	5,242	5,450	4,459	1.7%	16.2%
Total Sales	20,150	17,789	18,521	17,232	16,976	13.3%	18.7%

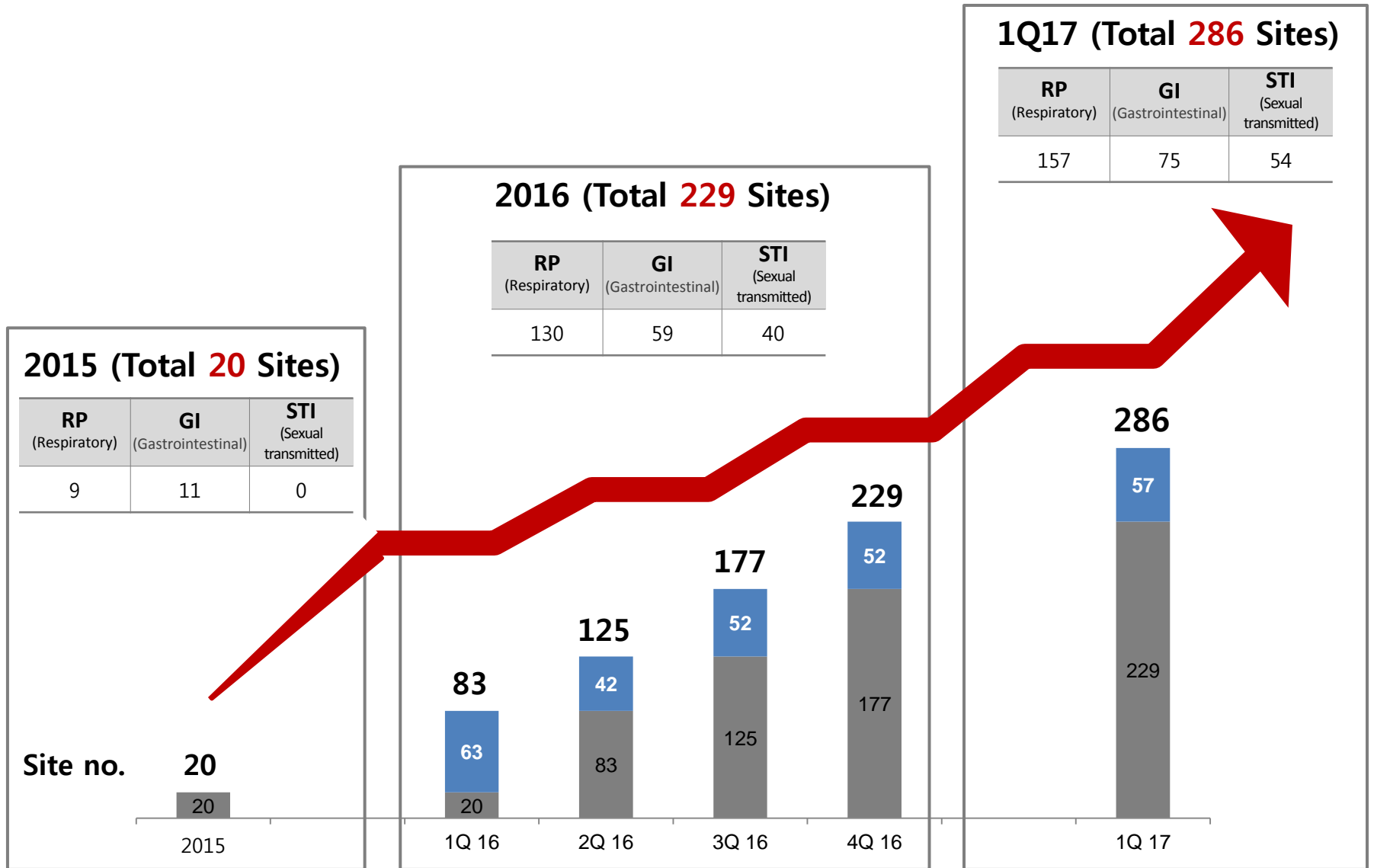
Revenue by Product (2016)



Reagent Sales Trend



Allplex™ Promotion Status



Allplex™ Promotion Status



Italian National Hospital

- Successful bid of 17 national hospitals in Toscana, Italy
- Contract amount: €7.5M/5Y (USD 8.4mn)
- Contract date: 2016.9
- Contract period: 5 yrs (2016.11 ~)
- Product: AnyplexII STI7, HPV28



Spanish University Hospital

- Contract with Vall d'Hebron University in Barcelona, Spain
 - Contract date: 2016. 11
 - Product: Allplex STI 100,00T/Y



The Largest C-Lab in Canada

- Contract with 'Lifelabs', the largest C-lab in Canada
- Contract amount: C\$ 7M/5Y (USD 5.1mn)
- Contract date: 2016. 10
- Contract period: 5 yrs (2017.01 ~)
- Product: Allplex™ GI-parasite panel



Registered in Israel insurance

- Registered in 'Clalit', the largest health insurance company in Israel (60% of Israeli applied)
 - Begin supplying products to 4 national hospitals
 - Product: Allplex STI 68,000T/Y, GI 140,000T/Y

Allplex™

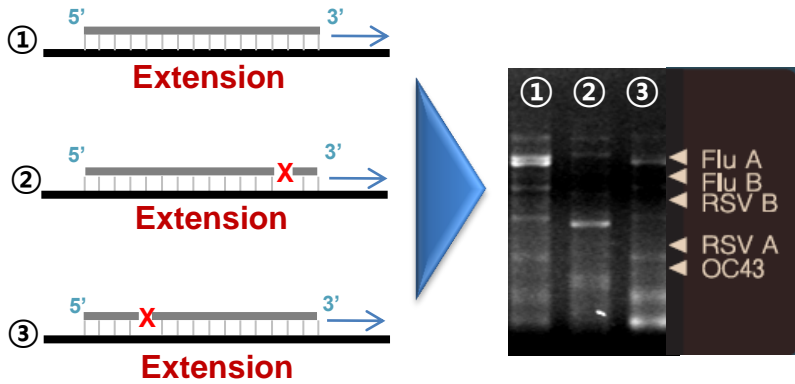
Key Proprietary Technologies



DPO™ (Dual Priming Oligonucleotide)

Conventional PCR

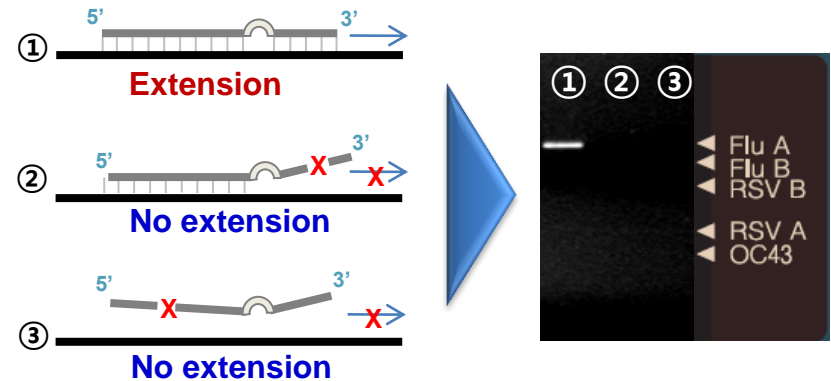
<Conventional Primer>



- Non-target genes are amplified together
- Limited multiplexing

DPO PCR

<DPO Primer>

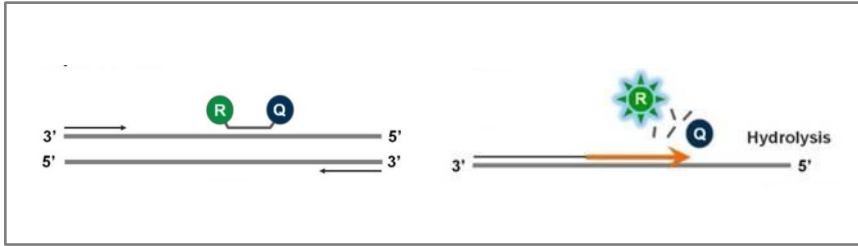


- Only the target gene is specifically amplified
- Highly reliable multiple target amplification

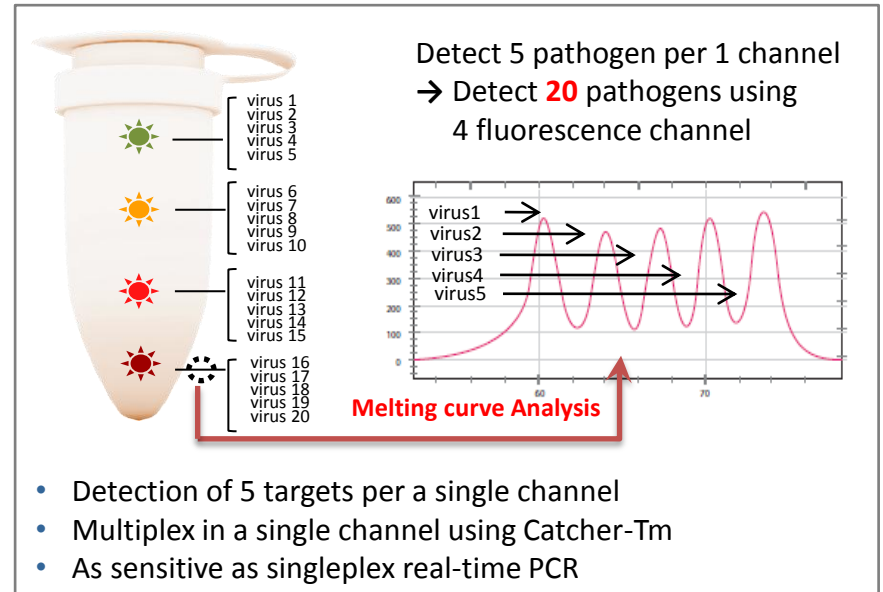
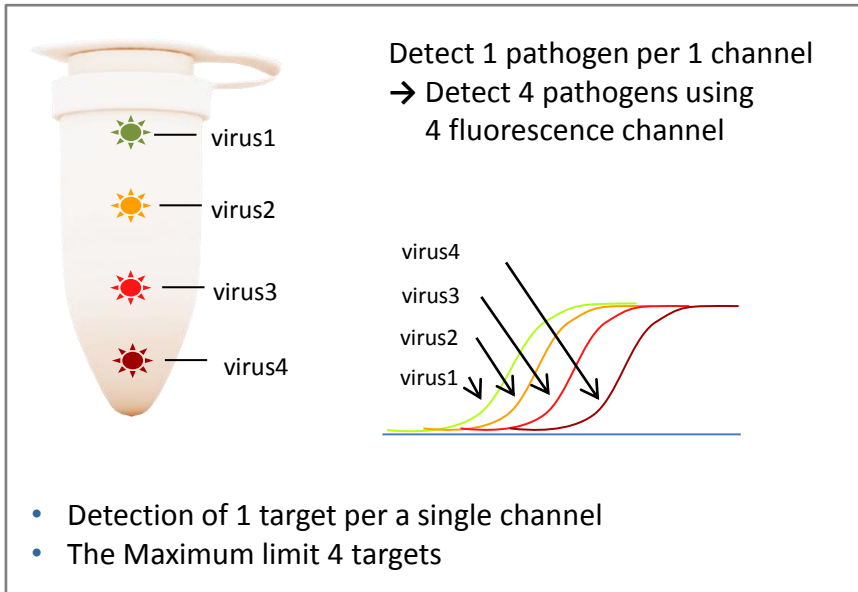
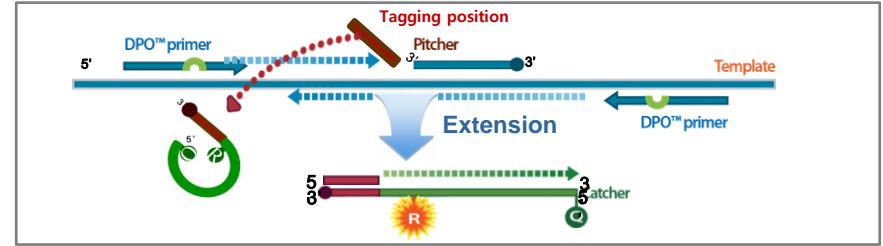
Multiplex + High Accuracy = Realization of Multiplex MDx

TOCE™ (Tagging Oligonucleotide Cleavage & Extension)

Conventional Real-time PCR



TOCE Real-time PCR

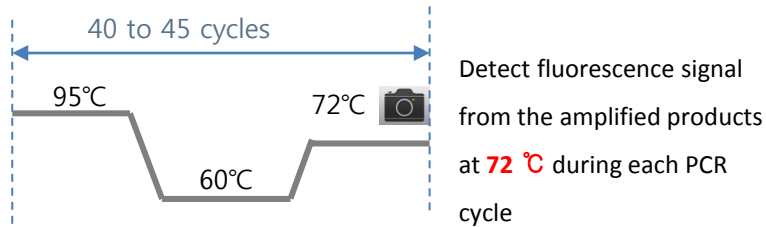


High Multiplex Real-time PCR + Quantitative Analysis(Melting Curve Analysis)

MuDT™ (Multiple Detection Temperatures)

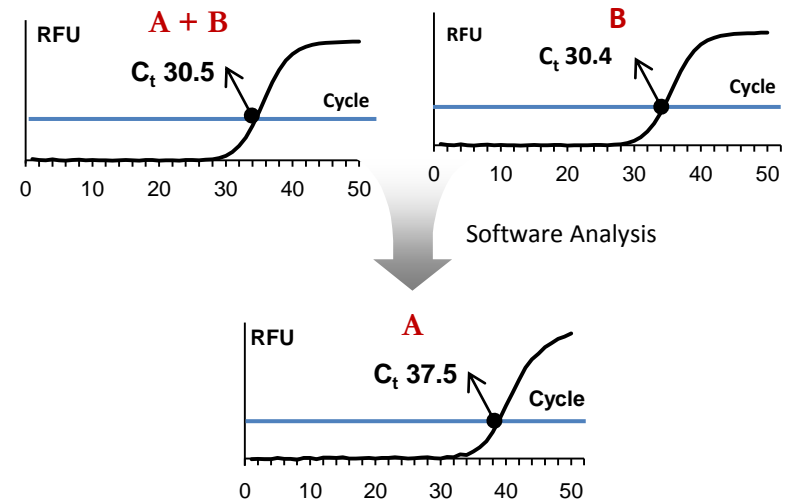
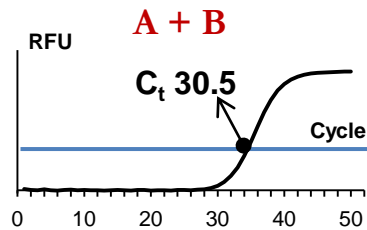
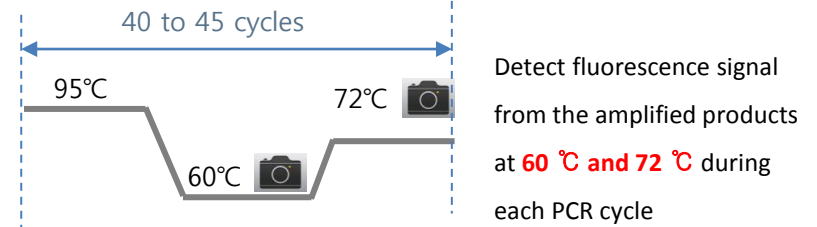
Conventional Real-time PCR

[PCR cycle]



MuDT Real-time PCR

[PCR cycle]



Multi qualitative/quantitative Analysis in Single channel = **Multi C_t value in Single channel**

Disclaimer

Any statement in this presentation about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward- looking statements. These statements are often, but not always, made through the use of words or phrases such as “believe”, “will”, “expect”, “anticipate”, “estimate”, “intend”, “plan” and “would”.

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Forward-looking statements are not guarantees of performance and involve both known and unknown risks, uncertainties and assumptions that may impact actual results. Levels of activity, performance or achievements may differ materially from those expressed or implied.

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