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## OEM & Customized Solutions

## 새로운 생명 과학 제품이나 기술을 개발하고 계십니까?

NEB Team과 함께 당신의 솔루션 구축을 시작하세요



### Collaborative R&D

NEB는 분자생물학 분야에서 사용하는 효소와 시약의 발견, 개발 및 제조에 45년 이상의 경험과 함께, 고객들과 같은 분야의 일을 하고 있습니다. 이를 바탕으로 NEB는 고객과의 협력 및 요구에 맞는 최상의 솔루션을 제공합니다. 일반적으로 지원하는 애플리케이션 유형은 다음과 같습니다.

Customized NGS library preparation / Synthetic biology / Genome editing  
In vitro transcription used to make RNA including long, therapeutic RNAs  
Isothermal amplification / PCR & qPCR-based molecular diagnostics



### Product Design & Packaging

NEB는 당신이 생각하는 제품의 컨셉 및 아이디어를 유형의 산물로 전환할 수 있도록 지원합니다. 고객의 특정 요구 사항을 충족하는 제품 맞춤화 - 시약의 농도 및 제형, BSA glycerol 비포함 등 - 를 제공합니다. 또한, 고객 요구에 맞춘 품질관리, 볼륨, 포장 및 개인 라벨을 제공할 수 있습니다. 빠르게 성장하는 생명 과학 시장에서는 스피드와 정확성이 생명입니다. 일례로, NEB는 생명 과학 회사와 협력하여, 그들 요구에 맞춘 시스템의 자동화, 워크플로우의 간소화로 비용 절감과 함께 맞춤형 시약을 제공할 수 있었습니다.



### Quality & Specifications

ISO 13485:2016 and ISO 9001:2015 인증 시설과, GMP 등급 시설을 갖춘 NEB는 업계 최고의 제품 순도와 로트 간 일관된 성능을 제공합니다.

NEB의 ISO13485 품질 시스템은 GMP 제조업체의 원칙과 매우 밀접하게 일치시켜 관리하고 있습니다. 또한 NEB의 QA / QC 프로그램은 ISO9001 및 13485 품질 관리 기준의 요구 사항을 능가합니다.



### Supply Chain Optimization & Vendor-Managed Inventory

NEB와 협력하면, 고품질 제품 이상의 것을 얻을 수 있습니다. 설계 및 제조 분야에서 45년 이상의 경험과 고유한 협력적 업무 윤리는 비즈니스의 일부입니다. 규모 또한 중요한 자산입니다. 우리는 비즈니스 확장에 따라 신속하게 대응할 수 있습니다. 기술이 준비되었습니까?

그렇다면 우리는 당신의 제조 및 운영팀과 협력하여 강력한 재료 공급망을 구축할 수 있습니다. 필요하다면 third party materials 및 GMP-grade materials도 제공할 수 있습니다.

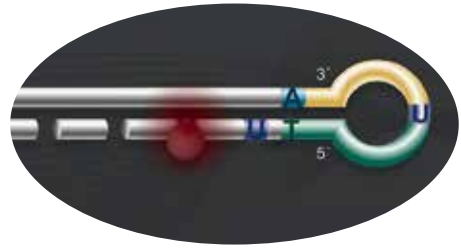
NEB Solutions 팀은 고객과 협력하여 다음과 같은 작업을 수행합니다.

- 주요 원재료의 유효성 확인
- 고객 맞춤형 제품 사양 개발, QC / QA 분석 및 완벽한 제품보증
- 워크 플로우 요구 사항을 충족시키는 바코드 제품 (1-D 및 2-D)
- ISO 13485 : 2016 인증 기관으로 분자 진단 제조 요구 사항 충족
- 규정 준수 요구 사항 지원

# NEBNext Ultra II NGS Library Preparation Kits and Reagents

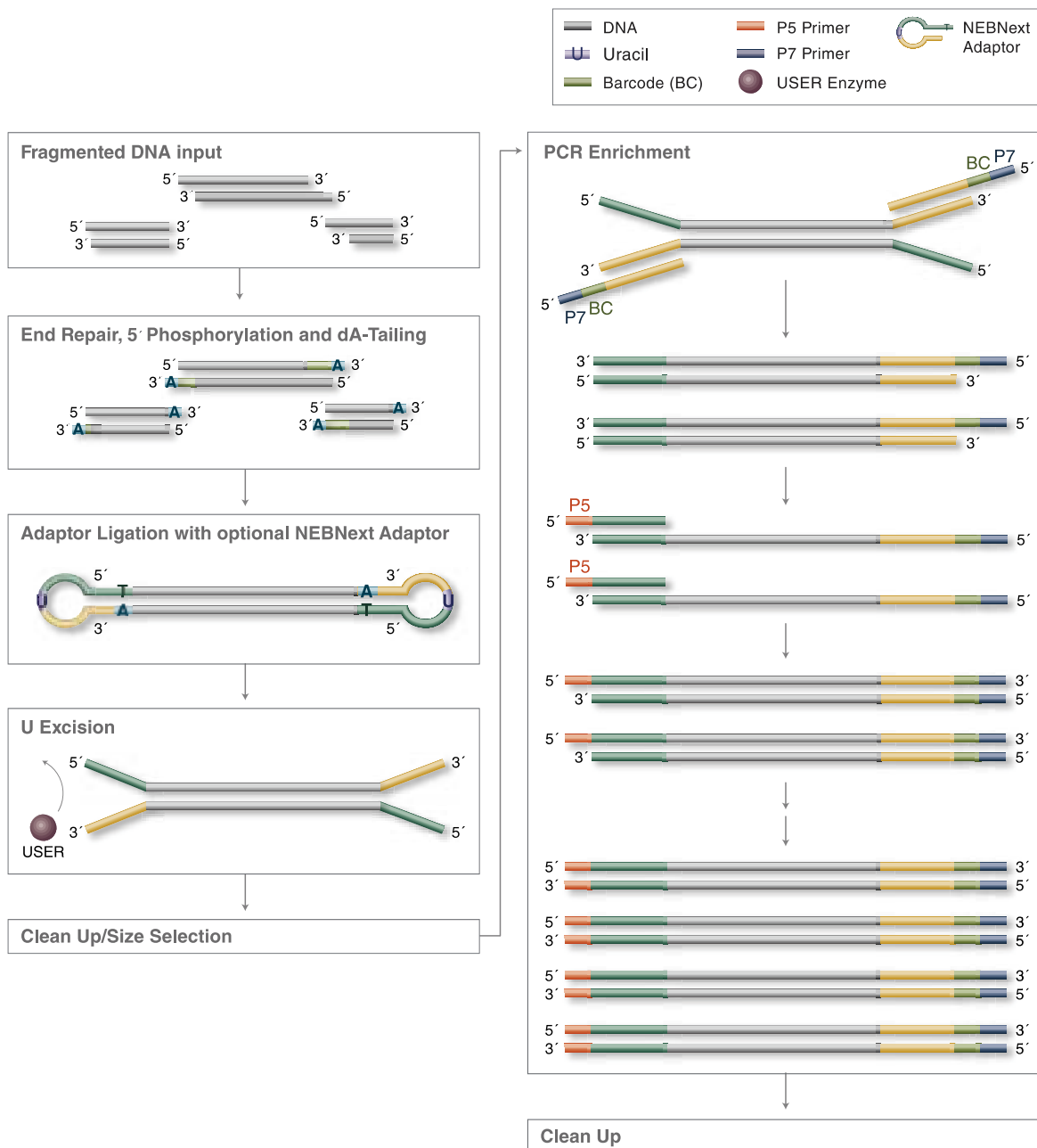
## Product Features

- Stem-loop structure adaptor technology로 high yield library 제작 가능
- Broad input amount high quality library
- 최소한의 handling time 및 fast workflow : 2-3 hrs
- Library 제작 단계별 reagents 개별 구매 가능



## Workflow

Figure 1. Workflow demonstrating the use of NEBNext Ultra II DNA Library Prep Kit for Illumina



# Product Information

## 1. Library Preparation for Illumina

### 1) DNA Library Prep Kit

Cat.No	Product	Size
E7645	NEBNext® Ultra™ II DNA Library Prep Kit for Illumina®	24 / 96 rxns
E7103	NEBNext® Ultra™ II DNA Library Prep with Sample Purification Beads	24 / 96 rxns
E7805	NEBNext® Ultra™ II FS DNA Library Prep Kit for Illumina	24 / 96 rxns
E6177	NEBNext® Ultra™ II FS DNA Library Prep with Sample Purification Beads	24 / 96 rxns
E7410	NEBNext® Ultra™ II DNA PCR-free Library Prep Kit for Illumina®	24 / 96 rxns
E7415	NEBNext® Ultra™ II DNA PCR-free Library Prep with Sample Purification Beads	24 / 96 rxns
E7430	NEBNext® Ultra™ II FS DNA PCR-free Library Prep Kit for Illumina®	24 / 96 rxns
E7435	NEBNext® Ultra™ II FS DNA PCR-free Library Prep with Sample Purification Beads	24 / 96 rxns
E3325	NEBNext UltraExpress™ DNA Library Prep Kit	24 / 96 rxns
E3340	NEBNext UltraExpress™ FS DNA Library Prep Kit	24 / 96 rxns

### 2) RNA Library Prep Kit

#### • Non-directional RNA Library Prep

Cat.No	Product	Size
E7770	NEBNext® Ultra™ II RNA Library Prep Kit for Illumina®	24 / 96 rxns
E7775	NEBNext® Ultra™ II RNA Library Prep with Sample Purification Beads	24 / 96 rxns

#### • Directional RNA Library Prep

Cat.No	Product	Size
E7760	NEBNext® Ultra™ II Directional RNA Library Prep Kit for Illumina®	24 / 96 rxns
E7765	NEBNext® Ultra™ II Directional RNA Library Prep with Sample Purification Beads	24 / 96 rxns
E3330	NEBNext UltraExpress™ RNA Library Prep Kit	24 / 96 rxns

#### • Small RNA Library Prep

Cat.No	Product	Size
E7300	NEBNext® Multiplex Small RNA Library Prep Set for Illumina (Set 1)	24 / 96 rxns
E7580	NEBNext® Multiplex Small RNA Library Prep Set for Illumina (Set 2)	24 / 96 rxns
E7560	NEBNext® Multiplex Small RNA Library Prep Kit for Illumina (Index Primers 1-48)	96 rxns
E7330	NEBNext® Small RNA Library Prep Set for Illumina (Multiplex Compatible)	24 / 96 rxns

#### • Single cell RNA Library Prep

Cat.No	Product	Size
E6421	NEBNext® Single Cell/Low Input cDNA Synthesis & Amplification Module	24 / 96 rxns
E5530	NEBNext® Single Cell Lysis Module	96 rxns
E6420	NEBNext® Single Cell/Low Input RNA Library Prep Kit for Illumina®	24 / 96 rxns

• rRNA Depletion / mRNA Enrichment

Cat.No	Product	Size
E7400	NEBNext® rRNA Depletion Kit v2 (Human/Mouse/Rat)	6 / 24 / 96 rxns
E7405	NEBNext® rRNA Depletion Kit v2 (Human/Mouse/Rat) with RNA Sample Purification Beads	6 / 24 / 96 rxns
E7750	NEBNext® Globin & rRNA Depletion Kit (Human/Mouse/Rat)	6 / 24 / 96 rxns
E7755	NEBNext® Globin & rRNA Depletion Kit (Human/Mouse/Rat) with RNA Sample Purification Beads	6 / 24 / 96 rxns
E7850	NEBNext® rRNA Depletion Kit (Bacteria)	6 / 24 / 96 rxns
E7860	NEBNext® rRNA Depletion Kit (Bacteria) with RNA Sample Purification Beads	6 / 24 / 96 rxns
E7865	NEBNext® RNA Depletion Core Reagent Set	6 / 24 / 96 rxns
E7870	NEBNext® RNA Depletion Core Reagent Set with RNA Sample Purification Beads	6 / 24 / 96 rxns
E7490	NEBNext® Poly(A) mRNA Magnetic Isolation Module	24 / 96 rxns
E3370	NEBNext® High Input Poly(A) mRNA Isolation Module	24 rxns

3) Modules & Enzyme

• For DNA

Cat.No	Product	Size
E7546	NEBNext® Ultra™ II End Repair/dA-Tailing Module	24 / 96 rxns
E7595	NEBNext® Ultra™ II Ligation Module	24 / 96 rxns
M0544	NEBNext® Ultra™ II Q5® Master Mix	50 / 250 / 500 rxns
E7810	NEBNext® Ultra™ II FS DNA Module	24 / 96 rxns
M0348	NEBNext® dsDNA Fragmentase®	50 /250 rxns
B0349	NEBNext® dsDNA Fragmentase® Reaction Buffer v2	6 ml
M0543	NEBNext® Q5® Hot Start HiFi PCR Master Mix	50 /250 rxns
M0541	NEBNext® High-Fidelity 2X PCR Master Mix	50 /250 rxns

• For RNA

Cat.No	Product	Size
E6150	NEBNext® Magnesium RNA Fragmentation Module	200 rxns
E7771	NEBNext® Ultra™ II RNA First Strand Synthesis Module	24 / 96 rxns
E7550	NEBNext® Ultra™ II Directional RNA Second Strand Synthesis Module	24 / 96 rxns
E6111	NEBNext® Ultra™ II Non-Directional RNA Second Strand Synthesis Module	24 / 96 rxns



#### 4) FFPE DNA Products

Cat.No	Product	Size
M7634	NEBNext UltraShear™	24 / 96 rxns
E6655	NEBNext UltraShear™ FFPE DNA Library Prep Kit	24 / 96 rxns
E6650	NEBNext® FFPE DNA Library Prep Kit	24 / 96 rxns
M6630	NEBNext® FFPE DNA Repair Mix	24 / 96 rxns
E7360	NEBNext® FFPE DNA Repair v2 Module	24 / 96 rxns

#### 5) Microbiome DNA Enrichment

Cat.No	Product	Size
E2612	NEBNext® Microbiome DNA Enrichment Kit	6 / 24 rxns

#### 6) Methylome Analysis

Cat.No	Product	Size
E7120	NEBNext® Enzymatic Methyl-seq Kit	24 / 96 rxns
E7125	NEBNext® Enzymatic Methyl-seq Conversion Module	24 / 96 rxns

#### 7) NGS Library Quantitation

Cat.No	Product	Size
B6118	NEBNext® Library Dilution Buffer	15 ml
E7642	NEBNext® Library Quant DNA Standards	500 rxns
E7630	NEBNext® Library Quant Kit for Illumina®	100 / 500 rxns

#### 8) Sequencing of SARS-CoV-2

Cat.No	Product	Size
E7658	NEBNext ARTIC SARS-CoV-2 Library Prep kits (-150bp) for smaller insert	24 / 96 rxns
E7650	NEBNext ARTIC SARS-CoV-2 Library Prep kits (-400bp) for smaller insert	24 / 96 rxns
E7626	NEBNext® ARTIC SARS-CoV-2 RT-PCR Module	24 / 96 rxns

#### 9) Multiplex Oligos (Adaptors & Primers)

Cat.No	Product	Size
E6609	NEBNext® Multiplex Oligos for Illumina (96 Index Primers)	96 / 384 rxns
E6440	NEBNext® Multiplex Oligos for Illumina (96 Unique Dual Index Primer Pairs)	96 / 384 rxns
E6442	NEBNext® Multiplex Oligos for Illumina (96 Unique Dual Index Primer Pairs Set 2)	96 / 384 rxns
E6444	NEBNext® Multiplex Oligos for Illumina (96 Unique Dual Index Primer Pairs Set 3)	96 / 384 rxns
E6446	NEBNext® Multiplex Oligos for Illumina (96 Unique Dual Index Primer Pairs Set 4)	96 / 384 rxns



E7600	NEBNext® Multiplex Oligos for Illumina (Dual Index Primers Set 1)	96 rxns
E7780	NEBNext® Multiplex Oligos for Illumina (Dual Index Primers Set 2)	96 rxns
E7335	NEBNext® Multiplex Oligos for Illumina (Index Primers Set 1)	24 / 96 rxns
E7500	NEBNext® Multiplex Oligos for Illumina (Index Primers Set 2)	24 / 96 rxns
E7710	NEBNext® Multiplex Oligos for Illumina (Index Primers Set 3)	24 / 96 rxns
E7730	NEBNext® Multiplex Oligos for Illumina (Index Primers Set 4)	24 / 96 rxns
B1430	NEBNext® Adaptor Dilution Buffer	9.6 ml
E7140	NEBNext® Multiplex Oligos for Enzymatic Methyl-seq (Unique Dual Index Primer Pairs)	24 / 96 rxns
E7416	NEBNext® Multiplex Oligos for Illumina (Unique Dual Index UMI Adaptors RNA Set 1)	96 / 384 rxns
E7395	NEBNext® Multiplex Oligos for Illumina® (Unique Dual Index UMI Adaptors DNA Set 1)	96 / 384 rxns
E7874	NEBNext® Multiplex Oligos for Illumina® (Unique Dual Index UMI Adaptors DNA Set 2)	96 / 384 rxns
E7876	NEBNext® Multiplex Oligos for Illumina® (Unique Dual Index UMI Adaptors DNA Set 3)	96 / 384 rxns
E7878	NEBNext® Multiplex Oligos for Illumina® (Unique Dual Index UMI Adaptors DNA Set 4)	96 / 384 rxns

## 2. Library Preparation for Ion Torrent

Cat.No	Product	Size
E6285	NEBNext® Fast DNA Fragmentation & Library Prep Set for Ion Torrent™	50 rxns
E6270	NEBNext® Fast DNA Library Prep Set for Ion Torrent™	50 rxns

## 3. Library Preparation for Oxford Nanopore Technologies

Cat.No	Product	Size
E7180	NEBNext® Companion Module for Oxford Nanopore Technologies® Ligation Sequencing	24 / 96 rxns
E7660	NEBNext® ARTIC SARS-CoV-2 Companion Kit (Oxford Nanopore Technologies®)	24 / 96 rxns

# Nucleic Acid Purification, PCR/qPCR Amplification & Cloning

## Monarch® Nucleic Acid Purification Kits\*

Cat. No	Product	size
<b>T2010</b>	Monarch® Total RNA Miniprep Kit	50 rxns
<b>S1550</b>	Magnetic mRNA Isolation Kit	25 rxns
<b>T2030</b>	Monarch® RNA Cleanup Kit (10 µg)	10 / 100 rxns
<b>T2040</b>	Monarch® RNA Cleanup Kit (50 µg)	10 / 100 rxns
<b>T2050</b>	Monarch® RNA Cleanup Kit (500 µg)	10 / 100 rxns
<b>T3010</b>	Monarch® Genomic DNA Purification Kit	50 / 150 rxns
<b>T3050</b>	Monarch® HMW DNA Extraction Kit for Cells & Blood	5 / 50 rxns
<b>T3060</b>	Monarch® HMW DNA Extraction Kit for Tissue	5 / 50 rxns
<b>T1020</b>	Monarch® DNA Gel Extraction Kit	50 / 250 rxns
<b>T1010</b>	Monarch® Plasmid Miniprep Kit	50 / 250 rxns
<b>T1030</b>	Monarch® PCR & DNA Cleanup Kit (5 µg)	50 / 250 rxns

\*각 제품별 소모품 별도구매가능

## Luna® qPCR & RT-qPCR Products\*\*

Cat. No	Product	size
<b>E3010</b>	LunaScript® RT SuperMix Kit	25 / 100 rxns
<b>M3003</b>	Luna® Universal qPCR Master Mix	200 / 500 / 1,000 / 2,500 rxns
<b>M3005</b>	Luna® Universal One-Step RT-qPCR Kit	200 / 500 / 1,000 / 2,500 rxns
<b>M3004</b>	Luna® Universal Probe qPCR Master Mix	200 / 500 / 1,000 / 2,500 rxns
<b>E3006</b>	Luna® Universal Probe One-Step RT-qPCR Kit	200 / 500 / 1,000 / 2,500 rxns
<b>E3007</b>	Luna® Probe One-Step RT-qPCR Kit (No ROX)	2,500 rxns
<b>M3019</b>	Luna® Probe One-Step RT-qPCR 4X Mix with UDG	200 / 500 / 1,000 / 2,500 rxns
<b>E3030S</b>	Luna® Cell Ready One-Step RT-qPCR Kit	100 rxns
<b>E3031S</b>	Luna® Cell Ready Probe One-Step RT-qPCR Kit	100 rxns
<b>E3032S</b>	Luna® Cell Ready Lysis Module	100 rxns
<b>E4001</b>	LyoPrime Luna® Probe One-Step RT-qPCR Mix with UDG	96 / 120 rxns

\*각 제품별 소모품 별도구매가능

## PCR & Isothermal Amplification Products

Cat. No	Product	size
<b>M0491</b>	Q5 High-Fidelity DNA Polymerase	100 / 500 rxns
<b>M0492</b>	Q5 High-Fidelity 2X Master Mix	100 / 500 rxns
<b>E0555</b>	Q5 High-Fidelity PCR Kit	50 / 200 rxns
<b>M0530</b>	Phusion High-Fidelity DNA Polymerase	100 / 500 units
<b>E0553</b>	Phusion High-Fidelity PCR Kit	50 / 200 rxns
<b>M0480</b>	OneTaq DNA Polymerase	200 / 1,000 / 5,000 units
<b>M0481</b>	OneTaq Hot Start DNA Polymerase	200 / 1,000 / 5,000 units
<b>M0538</b>	<i>Bst</i> 2.0 WarmStart DNA Polymerase	1,600 / 8,000 units
<b>M0374</b>	<i>Bst</i> 3.0 DNA Polymerase	50 / 250 rxns
<b>M0380</b>	WarmStart® RTx Reverse Transcriptase	100 / 500 rxns
<b>M1804</b>	WarmStart® Colorimetric LAMP 2X Master Mix with UDG	100 / 500 rxns
<b>M1800</b>	WarmStart® Colorimetric LAMP 2X Master Mix (DNA & RNA)	100 / 500 rxns
<b>E1708</b>	WarmStar <sup>+</sup> ® Fluorescent LAMP/RT-LAMP Kit (with UDG)	100 / 500 rxns
<b>M0269</b>	phi29 DNA Polymerase	250 / 1,250 units
<b>E1603</b>	phi29-XT RCA Kit	100 / 500 rxns
<b>M0500</b>	Q5® Blood Direct 2X Master Mix	100 / 500units

## Assembly Cloning

Cat. No	Product	size
<b>E2621</b>	NEBuilder HiFi DNA Assembly Master Mix	10 / 50 / 250 rxns
<b>E2611</b>	Gibson Assembly Master Mix	10 / 50 rxns
<b>E1601</b>	NEB Golden Gate Assembly Mix	20 / 100 rxns

## PCR Cloning

Cat. No	Product	size
<b>E1202</b>	NEB PCR Cloning Kit	20 rxms
<b>E2611</b>	Q5 Site-Directed Mutagenesis Kit	20 rxms

# nanoString nCounter Analysis System



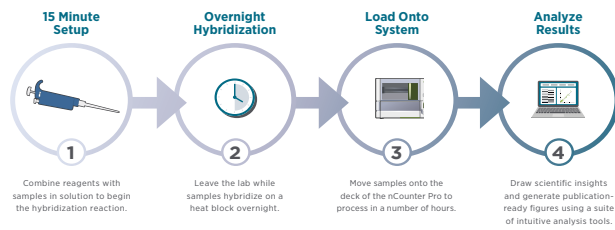
Faster than qPCR, Simpler than NGS

## Product Features

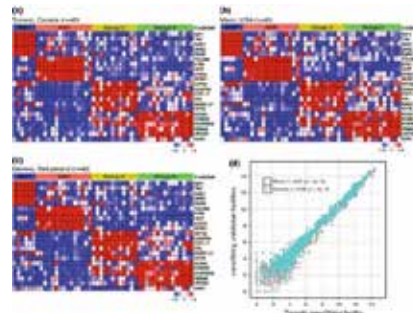
- No Amplification, No Enzyme bias
- Intact / degradation 된 total RNA 사용 가능
- 높은 Multiplex 효율 - 최대 800 개 유전자 동시 분석
- 다양한 application
  - mRNA / miRNA / Single cell / CNV assay / Protein
- 다양한 Sample type 및 Species에 적용 가능
  - Cell, Tissue, liquid Biopsy, FFPE tissue
  - Human, Animal, Plant, Microbes
- 초간단 Workflow - 재현성 높은 결과 도출



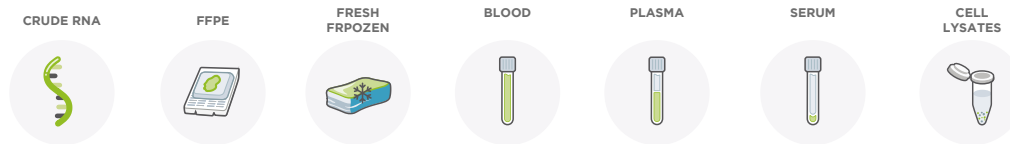
## Simple and Efficient Workflow



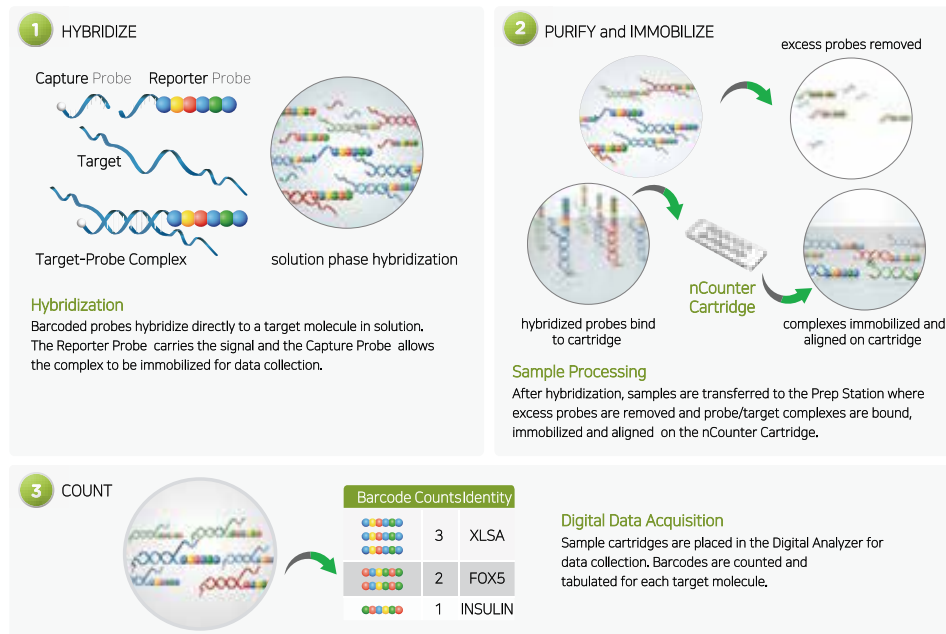
## Highly Reproducible Results: 3Labs, 3Countries, Same Results



## Broad Sample Compatibility



Target molecule과 Gene-specified color-coded barcode의 hybridization을 통한 Direct Count



대용량 유전자 발현량 분석 시스템

# nanoString nCounter Analysis System

## Specifications



nCounter SPRINT



nCounter Pro

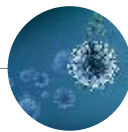
Level of multiplexing	Up to 800 targets	
Amount of starting material (Dependent on assay and sample type)	RNA : 100 ng 이상	
	DNA : 300 ng 이상	
Sample types supported	Total RNA, cell lysates in GITC, FFPE-derived total RNA, and PAXgene-lysed whole blood	
Fold change sensitivity	> 1.5-fold (if > 5 copies per cell)	
	> 2-fold (if > 1 copy per cell)	
Spike correlation	$R^2 \geq 0.95$	
Linear dynamic range	6 X 10 <sup>5</sup> total counts ; 둘 다 동일함	
Throughput	12 lanes per 6 hours	12 lanes per 3.5 hours for Prep Station
		12 lanes per 2.5 hours for digital analyzer

## Application



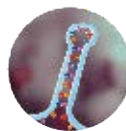
### Gene Expression

Perform multi-analyte measurements of RNA and proteins simultaneously



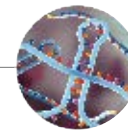
### Single Cell Analysis

Automated RNA profiling without cDNA synthesis, library prep, or amplification



### miRNA Expression

Profile miRBase high confidence and published clinical miRNAs



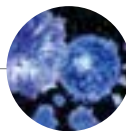
### miRGE Expression

Profile miRNA and mRNA expression simultaneously with one CodeSet.



### Copy Number Variation

Quantify multi-allelic CNV's with minimal hands-on time.



### ChIP-String Assays

Skip the hassle of library prep and amplification when analyzing ChIP'd material.



### Fusion Gene Analysis

Find breakpoint locations and specific junction sequences.

# nanoString nCounter Analysis System

## nCounter Immunology Panels

Panel	Species	No. of Genes	Research
nCounter Immunology Panel	Human	594	Ideal for the study of allergy, autoimmune diseases, and the immune response to infectious disease
	Mouse	561	
nCounter Inflammation Panel	Human	255	Content useful for the study of asthma, allergy, arthritis, and neurological-related inflammation
	Mouse	254	
nCounter Host Response Panel	Human	785	Understanding the complex interplay (the phases and progression) between a pathogen and the host response
	Mouse	785	
nCounter Myeloid Innate Immunity Panel	Human	785	Encompassing all aspects of the innate immune response of myeloid-derived cells (for research in immuno-oncology, autoimmunity, and infectious disease)
	Mouse	770	
nCounter Autoimmune Profiling Panel	Human	770	Discovering links between known autoimmune disease associated germline variants and gene expression
	Mouse	770	
nCounter Immune Exhaustion Panel	Human	785	Uncovering the mechanisms behind T cell, B cell, and NK cell exhaustion in diverse contexts, including cancer and infectious disease
	Mouse	785	
nCounter TCR Diversity Panel	Human	129	Measuring shifts in TCR diversity in response to disease or therapeutic treatments
nCounter NHP Immunology Panel	Green Monkey Rhesus Macaque Cynomolgus Macaque	770	Ideal for vaccine development, transplant research, immuno-oncology, toxicology and other research areas

## nCounter Oncology Panels

Panel	Species	No. of Genes	Research
nCounter PanCancer Pathways Panel	Human	770	Understand basic cancer biology and pathway deregulation
	Mouse	770	
nCounter PanCancer Immune Profiling Panel	Human	770	Explore the immune response to cancer.
	Mouse	770	
nCounter PanCancer Progression Panel	Human	770	Investigate cancer progression and metastasis.
	Mouse	770	
nCounter PanCancer IO 360 Panel	Human	770	A unique 360 degree view of gene expression for the tumor, microenvironment and immune response.
	Mouse	770	
nCounter Tumor Signaling 360 Panel	Human	780	A holistic view of the biology of the tumor, microenvironment, and immune response with an emphasis on dysfunctional cell signaling in cancer.
	Mouse	780	
nCounter Breast Cancer 360 Panel	Human	776	Categorize disease heterogeneity using 48 biological signatures including signatures based upon the analytically validated PAM50 and Tumor Inflammation Signature (TIS) assays
nCounter Canine Immuno-oncology Panel	Dog	800	Takes advantage of tumor-specific coverage for the most common canine cancers to enable researchers to share data and access enhanced statistical power.

## nCounter Therapy Panels

Panel	Species	No. of Genes	Research
Stem Cell Characterization	Human	770	Deeply characterize and optimize your stem cell development with the nCounter Stem Cell Characterization Panel. This panel measures the eight essential components of stem cell biology.
	Mouse	770	
Gene Therapy Optimization	Human	800	standardizes the entire gene therapy process from vector development and viral manufacturing to post-treatment monitoring. The panel content measures innate and adaptive immune responses, and addresses critical questions related to host-vector interactions.
	Mouse	800	
Antibody Drug Conjugates Development	Human	770	Enables researchers to answer complex questions critical for the success of Antibody Drug Conjugates throughout discovery, pre-clinical and clinical development.
	Mouse	770	



Organ Transplant	Human	770	Comprehensively profile the immune response to transplanted tissue and the pathways behind organ rejection. Analyze gene expression of hundreds of genes to identify biomarkers for rejection, uncover the mechanisms behind tissue damage, and monitor toxicities brought on by immunosuppressive drug
CAR-T Characterization	Human	780	Measures eight critical components of CAR-T biology and facilitates the development of robust product release assays with a streamlined workflow that potentially reduces vein to vein time.

### CNV & miRNA & Vantage 3D assay

Panel	Species	No. of Genes	Research
Cancer CN Assay	Human	87	Enables copy number quantification for 87 genes commonly amplified or deleted in cancer
nCounter miRNA Panel	Human	827	Conventional technologies for small RNA profiling like RNAseq can be costly, onerous, and require complex data analysis
	Mouse	577	
Vantage 3D Lung Gene Fusion Panel	Human	63	Includes 63 probes: 35 for specific fusion detection, 24 for positional gene expression imbalance detection, and 4 internal reference genes
Vantage 3D Leukemia Gene Fusion Panel	Human	42	Includes 42 probes: 27 for specific fusion detection, 12 leukemia biomarkers, and 3 internal reference genes.

# nanoString nCounter Analysis System

## nCounter PlexSet™ Reagents (Each 96 Genes)

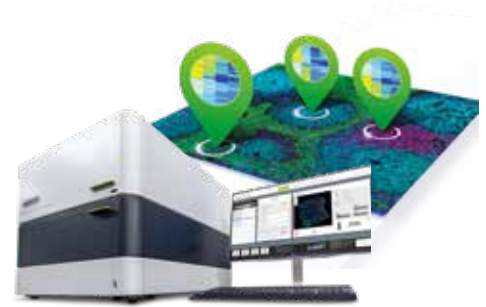
Panel Name	Species			Panel Name	Species			Panel Name	Species		
	Human	Mouse	Rat		Human	Mouse	Rat		Human	Mouse	Rat
AdherensJunctions	○	○	○	Essential Amino Acid Metabolism	○	○		Necrosis1	○	○	
Adipose Differentiation and Maintenance	○	○	○	Estrogen Receptor Signaling	○	○	○	Neurotransmitter Receptors	○	○	○
Allergic Response	○	○		Fatty Acid Metabolism	○	○		Neurotrophin Signaling	○	○	
Alzheimers Disease	○	○	○	Fatty Liver Disease	○	○		NF-kB Pathway	○	○	○
AMPK Pathway	○	○	○	Fibrosis	○	○	○	NF-kB Target Genes	○	○	○
Androgen Receptor Target Genes	○	○		Focal Adhesion Signaling	○	○		Nitric Oxide Signaling	○	○	
Angiogenesis	○	○	○	Gap Junctions	○	○		Non-essential Amino Acid Metabolism	○	○	
Angiogenic Signaling	○	○	○	Glucocorticoid Signaling	○	○	○	Notch Pathway	○	○	○
Antigen Presenting Cell	○	○		Glycosylation	○	○		Notch Target Genes	○	○	
Apoptosis	○	○		GPCR Pathways	○	○		Obesity	○	○	○
Atherosclerosis	○	○	○	Growth Factors	○	○		Oncology Drug Targets	○	○	○
Autophagy	○	○		Hdgehog Signaling	○	○	○	Osmotic Stress	○	○	
Blood Pressure Regulation	○	○	○	Hematopoiesis	○	○	○	Osteogenesis	○	○	○
Breast Cancer	○	○	○	Hippo Pathway	○	○		Osteoporosis	○	○	
Calcium Signaling	○	○	○	Huntingtons Disease	○	○	○	Oxidative Stress	○	○	○
Cancer Driver Genes	○	○		Hypoxia Signaling	○	○		p53 Pathway	○	○	○
Cancer Stem Cell Pathways	○	○	○	Immune response to bacterial infection	○	○		Phagocytosis	○	○	
Cardiovascular Disease	○	○		Immune response to fungal infection	○	○		Phase II Drug Metabolism	○	○	
CD4+ T-cell differentiation	○	○		Immune Response to tumors	○	○		Phosphatases	○	○	
Cell Cycle	○	○		Immune response to viral infection	○	○		PI3K-Akt Pathway	○	○	○
Cell Death	○	○	○	Immune Tolerance	○	○	○	Polycomb and Trithorax Complexes	○	○	○
Cell Migration	○	○	○	Immunotoxicity	○	○		Polycomb and Trithorax Target Genes	○	○	
Cell Stress and Toxicity	○	○	○	Induced Pluripotent Stem (iPS) Cells	○	○		Prostate Cancer	○	○	○
Cell-Matrix Interaction	○	○	○	Inflammasome Complexes and Regulation	○	○		Protein folding	○	○	○
Cellular Basis of Aging	○	○	○	Inflammatory Cytokine Signaling	○	○	○	Retinoic Acid Signaling	○	○	
Cellular Senescence	○	○	○	Insulin Signaling	○	○	○	Sepsis	○	○	○
Cellular Stress	○	○		Interferon Signaling	○	○		Skeletal Myogenesis and Myopathies	○	○	
Chemokine Signaling	○	○	○	IO Lymphocyte Activity	○	○		Stem Cell Signaling	○	○	○
Chemotherapy Resistance	○	○		IO Myeloid Activity	○	○		Stem Cell Transcription Factors	○	○	
Cholesterol and Lipoprotein Metabolism	○	○		Irritable Bowel Disease	○	○	○	Stem Cells	○	○	
Chromatin-modifying Enzymes	○	○		Kidney Toxicity	○	○	○	Telomere Replication and Maintenance	○	○	
Chromatin-remodeling Complexes	○	○	○	Learning and Memory	○	○	○	TGF-b Pathway	○	○	○
Common Signaling Pathways	○	○		Leukemia	○	○		TGF-b Target Genes	○	○	○
Cytokines	○	○		Liver Cancer	○	○	○	Th1 and Th2 Responses	○	○	○
Cytokines and Chemokines	○	○	○	Liver Toxicity	○	○		Th17 Response	○	○	○
Cytoskeleton Regulation	○	○		Lung Cancer	○	○		Tight Junctions	○	○	○
Detoxification	○	○		Lymphocyte Activation	○	○	○	TNF Signaling	○	○	
Diabetes	○	○	○	Lymphoma	○	○	○	Toll-Like Receptor Pathway	○	○	
DNA Damage Repair	○	○		MAPK Pathway	○	○	○	Transcription Factors	○	○	
DNA Damage Signaling	○	○	○	Meenchymal Stem Cells	○	○	○	Type I Interferon Signaling	○	○	
Drug Transporters	○	○		Metastasis	○	○		Type II Diabetes	○	○	
EGF and PDGF Signaling	○	○	○	Mitochondrial biogenesis and function1	○	○		Ubiquitination1	○	○	
Endothelial Cell Function	○	○	○	Molecular Toxicology1	○	○		Unfolded Protein Response	○	○	○
Epithelial Cell Junctions	○	○		mTOR Pathway1	○	○		VEGF Pathway1	○	○	
Epithelial to Mesenchymal Transition (EMT)	○	○	○	Multiple Sclerosis	○	○	○	WNT Pathway	○	○	○
				Myc Target Genes1	○	○		WNT Target Genes	○	○	○
								Wound Healing	○	○	○

# nanoString GeoMx™ Digital Spatial Profiler

## Product Features

- Digital Spatial 분석
- FFPE tissue, Fresh Frozen tissue 사용 가능
- RNA, Protein 발현량 분석 가능
- 1 Slide 당 up to 95 AOI (Area Of Illumination) 지정 가능
- TMA (Tumor Micro Array) Slide의 경우 최대 96 ROI 지정 가능
- 높은 Multiplex 효율  
(RNA: up to 21,000 genes, Protein: > 570)
- nCounter System 혹은 NGS 시스템을 이용한 결과 도출
- NGS 시스템과의 연동으로 Whole Transcriptome 분석 가능
- Custom 방식을 통한 유전자, Protein 추가 가능

nanoString



## nCounter Barcoding 기술을 이용한 RNA, Protein의 Digital Spatial 분석

High-Plex Mixtures of Proprietary Reagents	Profile Regions of Interest on FFPE slide	Rich Data Sets of Biology, Region by Region
<p><b>RNA reagents (UV cleavable linker)</b></p> <p><b>Protein reagents (UV cleavable linker)</b></p>	<p>GeoMx™ Digital Spatial Profiler</p> <p>Label FFPE Slide with Probe Mix</p> <p>Illuminate Region of Interest, as Small as a Single Cell</p>	<p><b>A</b></p> <p><b>B</b></p> <p><b>C</b></p>

## Locate Your Regions of Interest

### Geometric Profiling

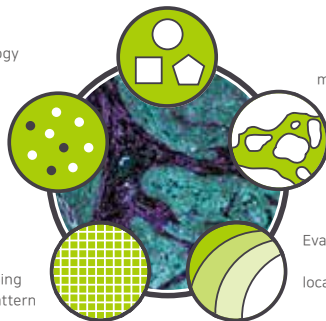
Assess tissue heterogeneity and profile standardized geometric shapes across distinct tissue regions

### Rare Cell Profiling

Cell type-specific morphology markers guide profiling, revealing the function of distinct cell populations

### Gridded Profiling

Perform deep spatial mapping using a tunable gridding pattern



### Segment Profiling

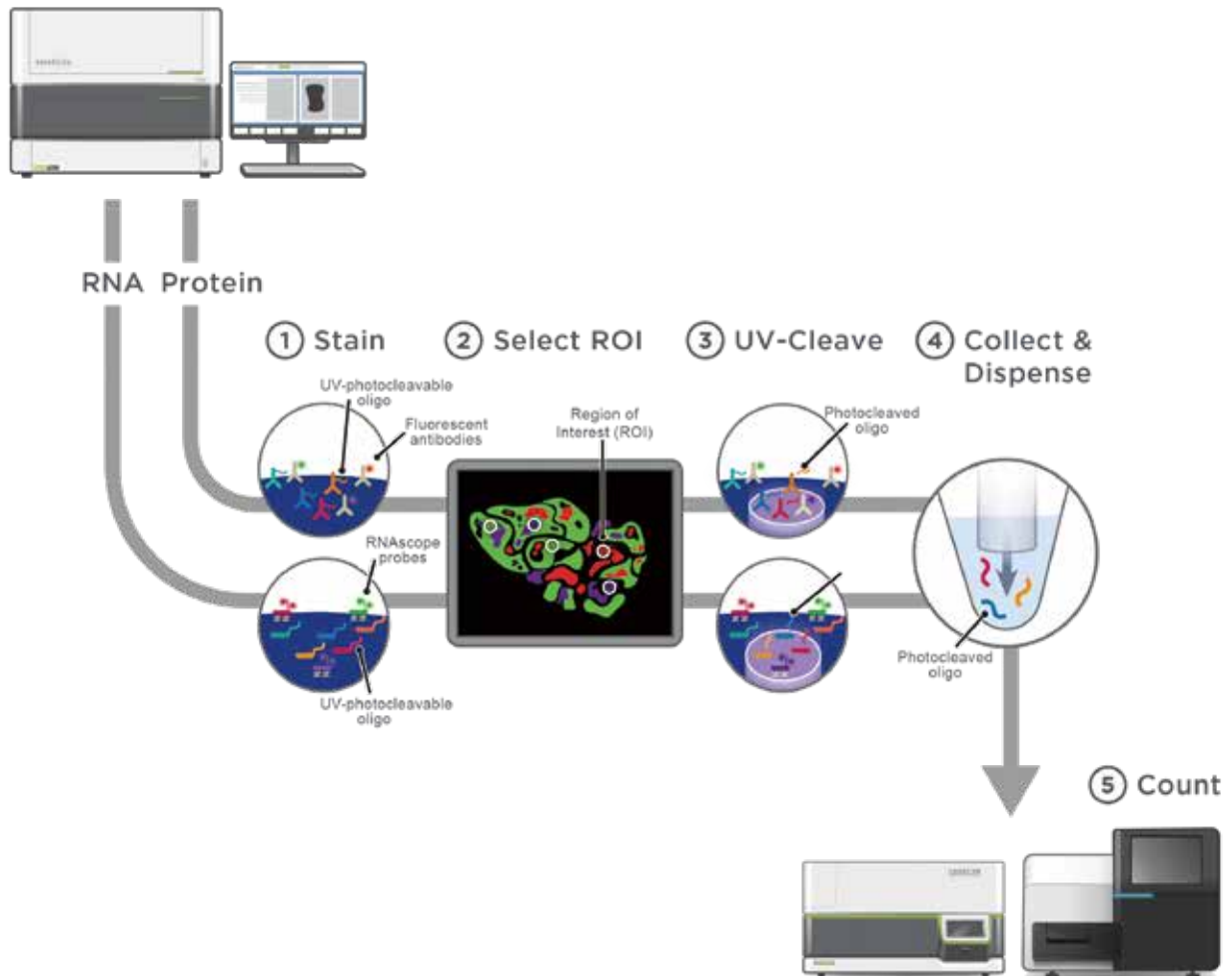
Maximize cellularity using morphology markers to identify and profile distinct biological compartments within an ROI

### Contour Profiling

Evaluate how proximity affects biological response and the local microenvironment around a central structure using a radiating ROI

# nanoString GeoMx™ Digital Spatial Profiler

## The DSP Workflow



1. **Process:** Apply high-plex oligo-labeled antibody cocktail + morphology markers
2. **View:** Use visible wavelength low-plex imaging to establish tissue "geography."  
Select regions-of-interest (ROIs) for high-plex profiling
3. **Profile:** UV-release oligo tags at selected ROIs
4. **Plate:** Store released tags in microtiter plate, index, and hybridize to barcodes
5. **Digitally count** up to 1 million data points per ROI
6. **Analyze** the data with nSolve™ Advanced Analysis Software

# nanoString GeoMx™ Digital Spatial Profiler

## GeoMx™ RNA Assay Panels



### RNA IMMUNE PATHWAYS PANEL

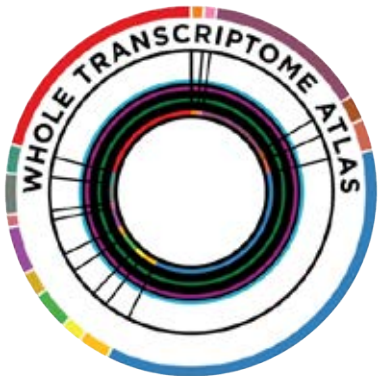
- **84 Genes in Immune Pathways**
  - Global immune response
  - Microenvironment immune activity
  - Tumor reactivity
  - Tumor Inflammation Signature



### CANCER TRANSCRIPTOME ATLAS(CTA)

Curated & validated content for cancer research

- Expansive content: 1,833 genes across 55 pathways
- Comprehensive biology: Tumor biology, immune response, microenvironment, low expressors (Cytokines, chemokines, transcription factors, etc)
- Curated annotations: Includes popular nCounter gene expression panels and signatures (PAM50, TIS)
- Customization: Ability to add genes of interest
- Minimal sequencing: 30-50M reads/sample



### WHOLE TRANSCRIPTOME ATLAS (WTA)

Whole transcriptome assay for discovery research

- **Comprehensive content:** >21,000 Gene specific probes designed to every protein coding sequence
- **Curated Annotations:** Utilized Gene Nomenclature Committee to intelligently design out uninformative genes
- **Customization:** Ability to add spike in genes of interest
- **Minimal sequencing:** 100-150M reads/sample



### IO PROTEOME ATLAS (IPA)

- Covers virtually every IO protein target in the **world's largest IHC-compatible antibody** catalog-Abcam
- **570+ protein targets** across cancer, metabolism, infectious disease, organ transplant, epigenetics, autoimmunity, and post-translational modifications
- Comprehensive coverage of the Hallmarks of Cancer, across **77** functional pathways
- Ability to add up to **40** of your own protein targets

# nanoString GeoMx™ Digital Spatial Profiler

## GeoMx™ Protein Assays for NGS

Immune	Oncology	Neuro	Human Protein Core for NGS			
+	+	+	Human Protein Core for NGS*	Includes markers for immune cells (CD45), proliferation (Ki-67), antigen presentation (B2M), and vasculature (CD31), and the controls needed to run any GeoMx DSP experiment.	CD45	Rb IgG
					Ki-67	Ms IgG1
					Beta-2-microglobulin	Ms IgG2a
					CD31	Histone H3
						S6
						GAPDH
			Human Protein Modules for NGS <i>Compatible with Illumina Systems</i>			
+	+		Immune Cell Typing*	Includes key immuno-oncology targets and markers of immune cell types, including T cells, B cells, macrophages, NK cells, and stroma.	CD20	GZMB
					CD3	FOXP3
					CD4	CD34
					CD56	CD66b
					CD8	Fibronectin
+	+		Immune Activation Status*	Includes additional checkpoint molecules and other markers of activated or memory T cells.	CD127	CD44
					CD25	CD27
					CD80	PD-1
					ICOS	PD-L1
					PD-L2	CD45RO
+	+		IO Drug Target*	Includes drug targets in development within the immuno-oncology space, including checkpoint molecules and metabolic mediators of immune function.	4-1BB	B7-H3
					LAG3	IDO1
					OX40L	STING
					Tim-3	GITR
					VISTA	CTLA4
	+		Pan-Tumor*	Includes markers for detecting EMT or cells of epithelial origin, and an expanded set of targets for detecting specific tumor types, including ER+/HER2+ breast tumors, hematopoietic malignancies, and melanoma.	MART1	PTEN
					NY-ESO-1	ER-alpha
					Bcl-2	PR
					EpCAM	PAN-CK
					Her2	SMA
+	+	+	Cell Death*	Includes protein mediators of immunogenic and programmed cell death.	BAD	CD95/Fas
					BCL6	GZMA
					BCLXL	NF1
					BIM	p53
					Cleaved Caspase 9	PARP
+	+	+	MAPK Signaling*	Includes key proteins involved in MAPK signal transduction, and phosphorylated protein products that measure pathway activation.	BRAF	pan-RAS
					p44/42 MAPK ERK1/2	EGFR
					Phospho-p44/42 MAPK ERK1/2 (T202/Y204)	Phospho-MEK1 (S217/S221)
					Phospho-c-RAF (S338)	Phospho-p38 MAPK (T180/Y182)



# nanoString GeoMx™ Digital Spatial Profiler

Immune	Oncology	Neuro	Human Protein Modules for NGS <i>Compatible with Illumina Systems</i>			
+	+	+	PI3K/AKT Signaling*	Includes key proteins involved in PI3K-AKT signal transduction, and phosphorylated protein products that measure pathway activation	Phospho-AKT1 (S473)	Pan-AKT
					Phospho-GSK3B (S9)	MET
					Phospho-GSK3A (S21)/ Phospho-GSK3B (S9)	INPP4B
					Phospho-PRAS40 (T246)	PLCG1
					Phospho-Tuberin (T1462)	
+	+	+	Myeloid*	Includes proteins expressed by myeloid cells generally or specific subsets, including macrophages, dendritic cells, and microglia.	HLA-DR	CD11b
					CD11c	CD14
					CD40	ARG1
					CD163	CD39
					CD68	
+	+	+	Autophagy*	Includes proteins involved in the regulation and process of autophagy.	ATG12	LAMP2A
					ATG5	LC3B
					BAG3	P62
					GBA	TFEB
					HSC70	VPS35
		+	Neural Cell Typing*	Includes relevant markers of neurons, oligodendrocytes, astrocytes, and microglia.	MAP2	IBA1
					Synaptophysin	P2ry12
					GFAP	TMEM119
					Myelin basic protein	NeuN
					Neurofilament light	Olig2
		+	Alzheimer's Disease Pathology*	Includes proteins and protein products that are associated with Alzheimer's pathology and risk in the literature, including beta-amyloid, Tau, and ApoE.	Amyloid Precursor Protein	APOE
					Amyloid-Beta 1-40	P2RX7
					Amyloid-Beta 1-42	Tau
					Phospho-Tau (S404)	Tdp-43
					Phospho-Tdp-43 (S409/S410)	Ubiquitin
		+	Alzheimer's Disease Pathology Extended*	Includes proteins and protein products that are associated with Alzheimer's pathology and risk in the literature, including increased coverage of phosphorylated Tau and amyloid processing proteins.	ADAM10	PSEN1
					BACE1	Phospho-Tau (T231)
					IDE	Phospho-Tau (S396)
					Neprilysin	Phospho-Tau (S199)
					NRGN	Phospho-Tau (S214)
		+	Parkinson's Disease Pathology*	Includes proteins associated with Parkinson's pathology and risk in the literature, including several Parkin genes and alpha-synuclein.	Alpha-synuclein	FUS
					ApoA-I	LRRK2
					Calbindin	Park5
					Phospho-Alpha-synuclein (S129)	Park7
					Tyrosine Hydroxylase	PINK1
		+	Glial Cell Subtyping*	Includes key markers of all glial cell subtypes, including microglia, astrocytes, and oligodendrocytes.	C4B	Mertk
					CD9	Vimentin
					CSF1R	Clec7a
					CTSD	Emp1
					GPNMB	S100B

대용량 유전자 발현량 분석 시스템

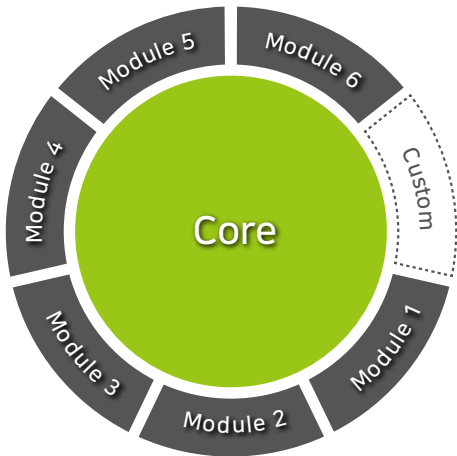


# nanoString GeoMx™ Digital Spatial Profiler

## GeoMx™ Protein Assays for nCounter

> 140 targets for cancer and immunology

> 75 targets for neuroscience



Immune Cell Profiling Panel	Neural Cell Profiling Panel
IO Drug Target Panel	AD Pathology Panel
Immune Activation Status Panel	PD Pathology Panel
Immune Cell Typing Panel	Alzheimer's Pathology Extended Panel
Pan-Tumor Panel	Autophagy Panel
MAPK Signaling Panel	Glial Cell Subtyping Panel
PI3K / AKT Signaling Panel	
Cell Death Panel	

Plus > 6,000 antibodies for custom conjugation from Abcam

## GeoMx™ Protein Assays for nCounter

	Immuno-Oncology	Neuroscience
<b>Protein Cores</b>	<b>Immune Cell Profiling</b> 18-plex Human/Mouse	<b>Neural Cell Profiling</b> 20-plex Human
<b>Protein Modules</b>	<b>IO Drug Target</b> 6-10-plex Human/Mouse	<b>Alzheimer's Pathology</b> 10-plex Human
	<b>Immune Activation Status</b> 8-plex Human	<b>Parkinson's Pathology</b> 10-plex Human
	<b>Immune Cell Typing</b> 7-plex Human Mouse*	<b>Alzheimer's Pathology 2</b> ~10-plex*
	<b>Pan-Tumor</b> 9-plex Human Mouse*	<b>Autophagy</b> ~10-plex*
	<b>Cell Death</b> ~10-plex Human*	<b>Glial Cell Subtyping</b> ~10-plex*
	<b>PI3K/AKT Signaling</b> ~10-plex Human*	
	<b>MAPK Signaling</b> ~10-plex Human*	
<b>Custom Modules</b>	Available Immune Pathways	Available

# nanoString GeoMx™ Digital Spatial Profiler

## GeoMx™ Protein Assays for nCounter

Gene list in Immuno-oncology protein panels



### <HUMAN PANEL>

Immune Cell Profiling Panel Human Protein Core						IO Drug Target Panel Human Protein Module	
Beta-2-microglobulin	CD3	CD56	CTLA4	GZMB	PD-1	4-1BB	LAG3
CD11c	CD4	CD68	Pan-cytokeratin	HLA-DR	PD-L1	ARG1	OX40L
CD20	CD45	CD8	Fibronectin	Ki-67	SMA	B7-H3	STING
Ms IgG2a				Histone H3		GITR	TIM-3
Ms IgG1				S6		IDO1	VISTA
Rb IgG				GAPDH			
Immune Activation Status Panel Human Protein Module		Cell Death Panel Human Protein Module		PI3K/AKT Signaling Panel Human Protein Module			
CD127	CD80	BAD	GZMA	Pan-AKT		Phospho-GSK3A (S21)/Phospho-GSK3B (S9)	
CD25	ICOS	BCL6	NF1	MET		INPP4B	
CD27	PD-L2	BCLXL	p53	Phospho-AKT1 (S473)		PLCG1	
CD40		BIM	PARP	Phospho-GSK3B (S9)		Phospho-PRA540 (T246)	
CD44		CD95/Fas	Cleaved Caspase 9	Phospho-Tuberin (T1462)			
Immune Cell Typing Panel Human Protein Module		Pan-Tumor Panel Human Protein Module		MAPK Signaling Panel Human Protein Module			
CD14	FAPalpha	BCL-2	NY-ESO-1	EGFR		Phospho-MEK1 (S217/S221)	
CD163	FOXP3	EPCAM	PR	pan-RAS		Phospho-p38 MAPK (T180/Y182)	
CD34		ER alpha	PTEN	BRAF		Phospho-p44/42 MAPK ERK1/2 (T202/Y204)	
CD45RO		HER2/ERBB2	S100B	Phospho-c-RAF (S338)		p44/42 MAPK ERK1/2	
CD66b		MART1		Phospho-JNK (T183/Y185)		Phospho-p90 RSK (T359/S363)	

### <MOUSE PANEL>

Immune Cell Profiling Panel Mouse Protein Core				IO Drug Target Panel Mouse Protein Module		Immune Activation Status Panel Mouse Protein Module	
PD-1	CD11c	CD8a	PanCk	LAG3	VISTA	CD127/IL7RA	CD44
MHC II	CD19	CTLA4	SMA	OX40L	B7-H3	CD27	CD86
CD11b	CD3e	Fibronectin		Tim-3	GITR	CD40	ICOS
Ki-67	CD4	GZMB				CD40L	
F4/80	CD45	PD-L1		Immune Cell Typing Panel Mouse Protein Module		Pan-Tumor Panel Mouse Protein Module	
Rb IgG		Histone H3		CD14	Ly6G/Ly6C	IFNGR	GFP
Rt IgG2a		S6		CD163	BatF3	Epcam	Pmel17
Rt IgG2b		GAPDH		CD31	CD28	S100B	Her2
				CD34		ER	AhR
				FOXP3		AR	

Gene list in Immuno-oncology protein panels



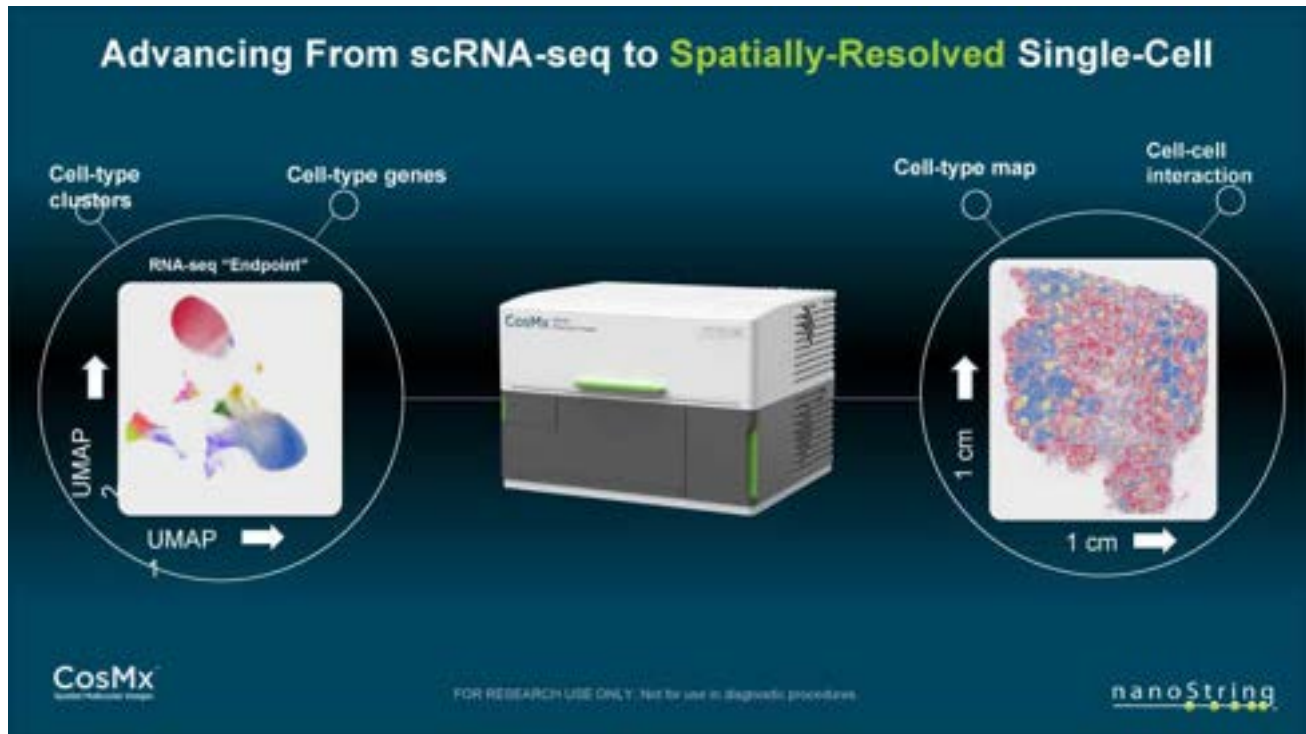
### <HUMAN PANEL>

Neural Cell Profiling Panel Human Protein Core				AD Pathology Panel Human Protein Module		PD Pathology Panel Human Protein Module		AD Pathology Extended Panel Human Protein Module	
CD68	SYP	Olig2	P2ryl2	Amyloid-Beta 1-40	Phospho-Tau (S404)	ApoA1	Park7	Phospho-Tau (T231)	PSEN1
HLA-DR	IBA1	CD40	TMEM119	Amyloid-Beta 1-42	Phospho-Tdp-43 (S409/S410)	Calbindin	Phospho-SNCA (S129)	Phospho-Tau (S396)	NRGN
CD11b	GFAP	CD45		APOE	Tau	FUS	PINK1	Phospho-Tau (S199)	Nephrilysin
MAP2	MBP	NEFL		APP	Tdp-43	LRRK2	SNCA	Phospho-Tau (S214)	IDE
Ki-67	NeuN	CD31		P2RX7	UBB	Park5	TH	ADAM10	BACE1
CD163	S100B	CD39		Autophagy Panel Human Protein Module		Glial Cell Subtyping Panel Human Protein Module			
Ms IgG2a		Histone H3		ATG12	HSC70	LC3B	C4B	CTSD	EMP1
Ms IgG1		S6		ATG5	LAMP2A	P62	CD9	GNPMB	CD11c
Rb IgG		GAPDH		BAG3	TFEB		CLEC7A	MERTK	
				GBA	VPS35		CSFIR	Vimentin	

### <MOUSE PANEL>

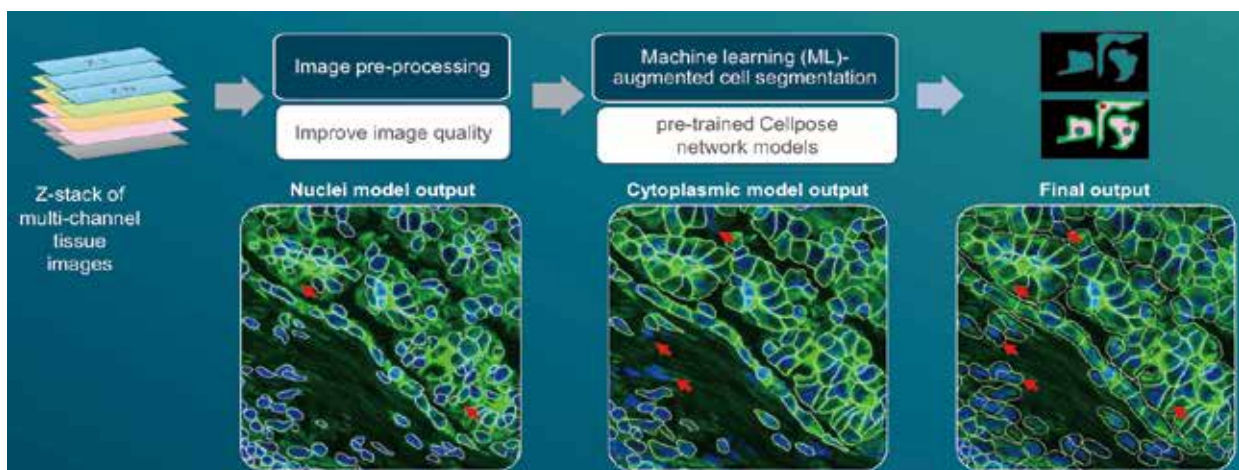
Neural Cell Profiling Panel Mouse Protein Core				AD Pathology Panel Mouse Protein Module		PD Pathology Panel Mouse Protein Module		AD Pathology Extended Panel Mouse Protein Module	
CD11b	CD45	MBP	SYP	Amyloid-Beta 1-42	Phospho-Tau (S404)	ApoA1	Phospho-SNCA (S129)	Nephrilysin	p-Tau (S199)
CD163	GFAP	NEFL	TMEM119	APOE	Tau	Calbindin	PINK1	BACE1	p-Tau (S396)
CD31	IBA1	NeuN	CD68	APP	Tdp-43	LRRK2	SNCA	IDE	p-Tau (T214)
CD39	Ki-67	Olig2	MHC II	P2RX7	UBB	Park5	TH	Neurogranin	p-Tau (T231)
CD40	MAP2	S100B				Park7		PSEN1	
				Autophagy Panel Mouse Protein Module		Glial Cell Subtyping Panel Mouse Protein Module			
Rb IgG		Histone H3		ATG12	ULK1	LC3B	CD9	GNPMB	SPP1
Rt IgG2a		S6		ATG5	VPS35	P62	CSFIR	ITGAX	Aldh1l1
Rt IgG2b		GAPDH		Beclin-1	TFEB		Ctsd	Mertk	
				PLA2G6	BAG3		Vimentin	MSR1	

# nanoString CosMx Spatial Molecular Imager(SMI)



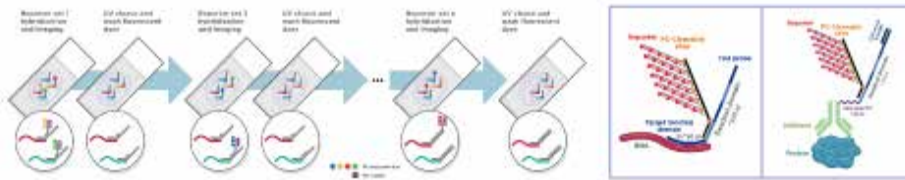
## Product Features

- 나노스트링에서 개발한 CosMx Spatial Molecular Imager(SMI)는 높은 해상도(Single cell, sub cellular level 분석), high plex (>6,000 RNA, 64 Protein) 분석 기술이 접목된 multiomics spatial 분석 가능 한 장비
- 해당 장비를 이용하여 실험을 진행할 경우 한 장의 슬라이드에서 RNA, Protein에 대한 분석이 동시 가능
- FFPE, FF, Core needle biopsy, TMA 조직 등 다양한 샘플을 이용하여 실험 가능
- 300mm<sup>2</sup>에 해당하는 조직까지 full slide scan이 가능하며 분석 하고자 하는 region을 FOV로 지정하여 분석을 진행할 경우 Single cell 혹은 sub cellular level로 segmentation이 가능하여 단일 세포에서 최대 6000개 유전자, 64개 단백질에 대한 분석이 가능
- 분석하고자 하는 region에서의 유전자 및 단백질의 발현량 뿐 아니라 cell typing/cell population 분석, Neighborhood cell clustering, Phenotyping of the tissue microenvironment 분석이 가능 하므로 기존의 single cell RNA seq 방법을 이용하여 구축할 수 없었던 real time Spatial 정보 구축이 가능

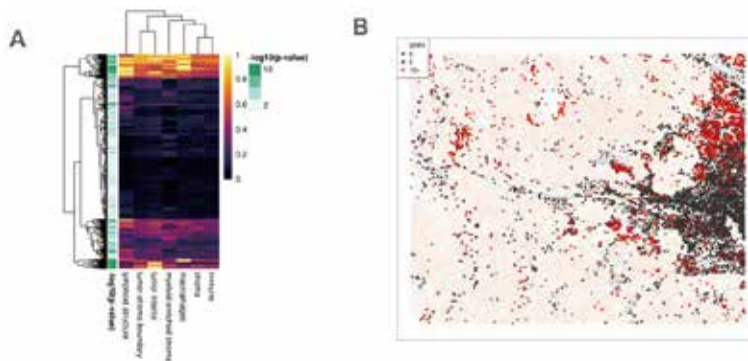
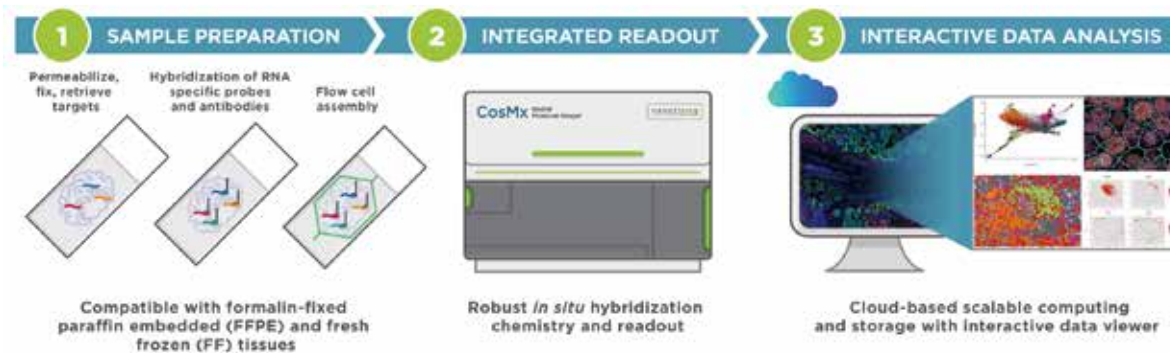


## 실험 원리 및 실험 과정

- CosMx Spatial Molecular Imager(SMI)실험은 RNA, Protein에 대해 실험을 진행할 수 있으며 mature cyclic in situ hybridization chemistry와 ultra-high-resolution imaging readout 기술을 이용하여 실험하고자 하는 전체 슬라이드에 대하여 full scanning을 진행하고 interactive data analysis와 visualization software를 이용하여 분석하고자 하는 tissue region 에서 single cell/sub cellular level로 유전자 및 단백질에 대한 분석 및 cell typing 등의 다양한 분석이 가능
- 유전자 및 단백질 분석은 아래의 molecule을 이용하여 16 cycle의 in situ hybridization과 read out을 통해 target 유전자와 단백질에 대한 발현량을 실시간으로 정량함



- 실험하고자 하는 조직 슬라이드는 manual 방법을 이용하여 permeabilize, fix, target retrieval 과정을 거친 후 유전자/단백질 specific 한 probe를 조직에 in situ hybridization 시키고 이후 flow cell을 장착한 조직 슬라이드는 CosMx SMI 장비로 옮긴 후 full automation 과정을 통해 target에 대한 read out을 진행

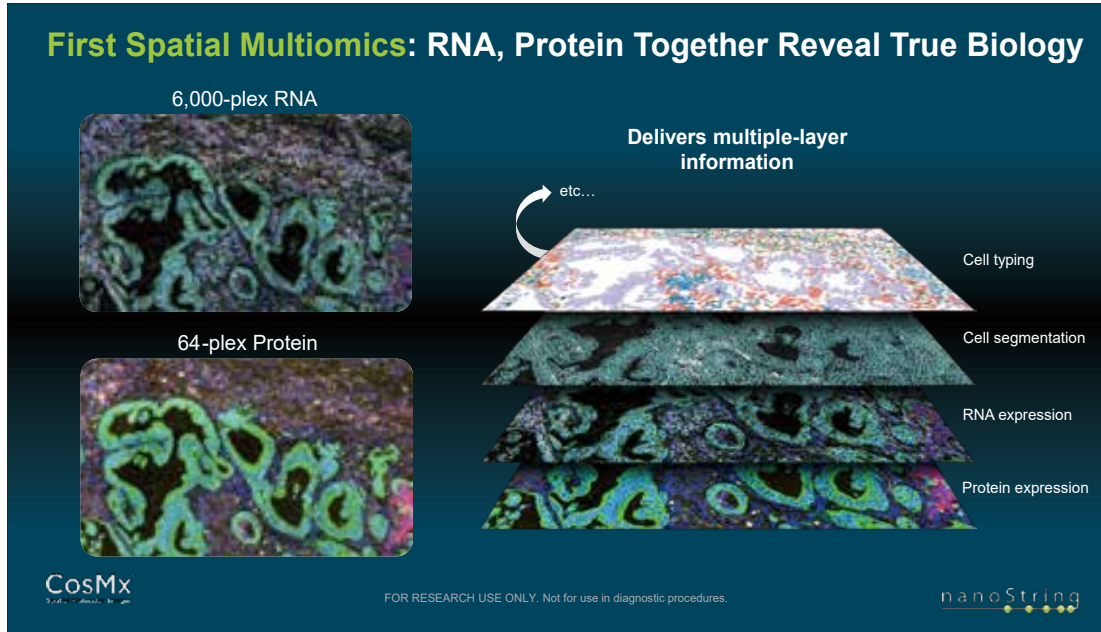


- 데이터 분석은 cloud based server를 통해 진행되며 분석을 통해 단일 세포간의 target 유전자 및 단백질에 대한 발현량 정량, cell typing 등의 다양한 데이터 구축이 가능함

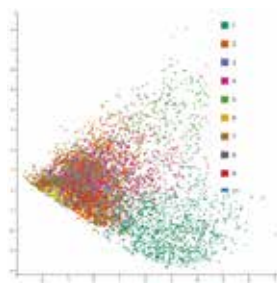


# Result & Data Analysis

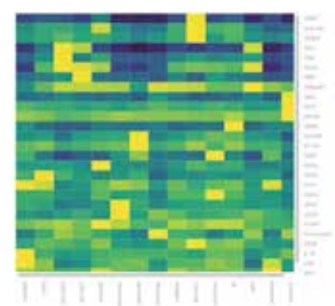
- Cloud based server를 통해 분석이 가능하며 AI에 기반을 둔 Single cell 혹은 subcellular segmentation을 진행하여 각각의 세포에서 유전자 및 단백질의 발현량 정량이 가능
- 분석하고자 하는 region을 FOV로 지정할 경우 지정된 region에 포함된 Cell typing, cell-cell interaction, cell discovery 등 다양한 분석 결과 도출이 가능



[UMAP]



[PCA]



[Heatmap]

## Application

### 1) RNA Application

- Human Discovery Panel : 6000 plex RNA
- Human Universal cell characterization : 1000 plex RNA
- Mouse Universal cell characterization : 1000 plex RNA
- Mouse Neuroscience 1000-plex RNA
- Human Immuno-oncology : 100 plex RNA
- full custom

### 2) Protein Application

- Human Immuno-oncology: 64 plex
- Mouse Neuro Protein : 64 plex
- Full Custom

# TissueFAXS Cytometry로 Spatial Biology의 비밀을 탐색하세요

## TissueGnostic Workflow - Tissue Cytometry

TSA multiplex staining



TSA mIHC Assay Kits

Whole Slide Scan

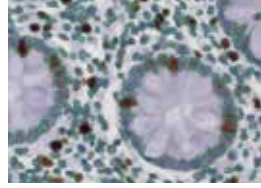


TissueFAXS Spectra

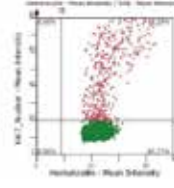
Spectral Unmixing



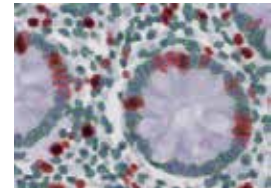
Segmentation - single cell level



Gating



Target cell identified



StrataQuest

## 다양한 응용분야

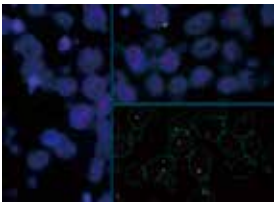
Academic Research

Translational Medicine

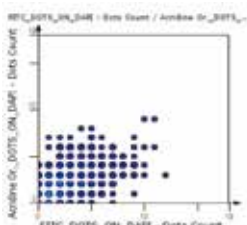
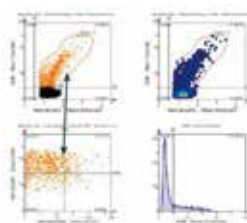
Clinical Application

Whole Slide Images

Analysis



Chromogenic, fluorescent, Spectral and 3D Structure Imaging



Quadrant	Mean of hem.	Mean of cydi.	Count	Percent	No./mm <sup>2</sup>
UL	0.000	0.000	0	0.00%	0.000
UR	48.024	43.481	188	47.62%	1740.097
LL	0.000	0.000	0	0.00%	0.000
LR	49.452	33.446	90	32.37%	837.334
Overall	48.486	33.081	278	100.00%	2586.431
Proper size	48.486	33.081	278	100.00%	2586.431
Debris	42.629	47.771	41	14.75%	381.452
Negative	49.500	33.815	92	33.09%	855.941
Weak	47.711	54.794	115	41.37%	1069.926
Strong	48.585	86.295	52	18.71%	481.793



# 1장의 슬라이드에서 최대 10가지 색상으로 marker 구별이 가능한 TSA Multiplex IHC Assay Kits

## Product Features

- 최대 100배의 고감도
- 모든 제품의 항체 선택 가능
- 더 오래, 더 밝게 지속되는 형광신호
- 1차 항체 사용량 감소
- 1장의 슬라이드에서 최대 10가지 색상으로 마커 구별

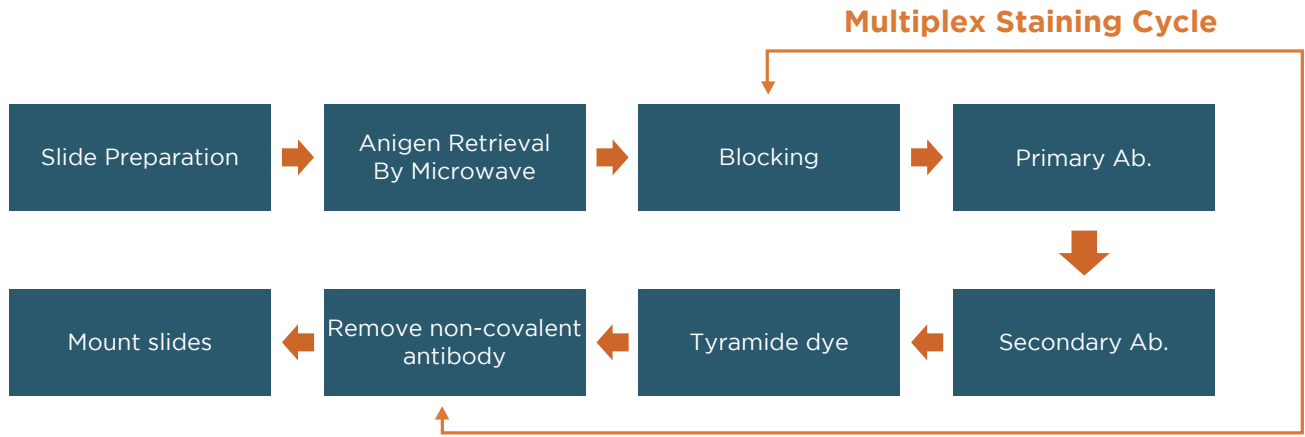


## TSA Dyes List

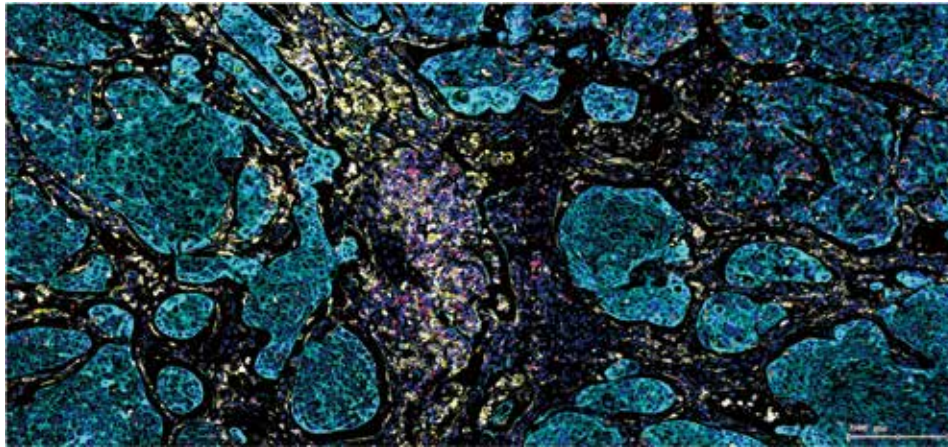
TSA Dye	Brightness	Photo-sensitivity	Heat Stability	pH Stability	Ex.(nm)/Em.(nm)	Ref.FL
TG420N	★★	★★	★★★	★★★	405/420	AF405
TG440N	★★★	★★★	★★★★	★★★★	362/436	AF350
TG520N	★★★★	★★★	★★★	★★★	488/519	AF488/ Opal520
TG540N	★★★★	★★★★	★★★★	★★★★	517/539	AF514/ Opal540
TG570N	★★★★	★★★★	★★★★	★★★★	555/570	AF555/ Opal570
TG620N	★★★★	★★★★	★★★★	★★★★	594/615	AF594/ Opal620
TG650N	★★★★	★★★★★	★★★★	★★★★	633/655	Opal650
TG670N	★★★★	★★★★★	★★★★	★★★★	650/670	AF647/ Opal670
TG700N	★★★★	★★★★★	★★★★	★★★★	682/702	Opal690
TG540S	★★	★★★★	★★★★	★★★★	405/540	/
TG660S	★★	★★★★	★★★★	★★★	500/660	/
<b>Nuclear Dye</b>						<b>Dilution</b>
DAPI	★★★★	★★★★★	★	★★★★	360/460	1:500
TG470SN	★★★	★★★★	★	★★★★	450/470	1:200



# TSA Staining Workflow



## 10-color TSA FFPE Kits 사용 예



- CK19
- CD68
- FDXP3
- HLA-DR
- CD4
- CD163
- PD1
- CD8
- CD20

## Product Information

### TSA Dyes Kits

TSA Amplification reagent (키트별 dye 조합 변경 가능합니다.)  
Amplification diluents buffer

Cat No.	규격	제품정보 (TSA dyes)	제품명
TGT4C50	50ul	* TG520N, TG570N, TG670N, DAPI	4-color TSA dyes
TGT4C100	100ul		
TGT5C50	50ul	* TG520N, TG570N, TG620N, TG670N, DAPI	5-color TSA dyes
TGT5C100	100ul		
TGT6C50	50ul	* TG520N, TG570N, TG620N, TG650N, TG700N, DAPI	6-color TSA dyes
TGT6C100	100ul		
TGT7C50	50ul	* TG440N, TG520N, TG570N, TG650N, TG700N, TG660S, TG470SN	7-color TSA dyes
TGT7C100	100ul		
TGMST850	50ul	* TG440N, TG520N, TG540N, TG570N, TG620N, TG650N, TG700N, TG470SN	8-color TSA dyes
TGMST8100	100ul		

TGMST950	50ul	* TG520N, TG570N, TG670N, DAPI	9-color TSA dyes
TGMST9100	100ul		
TGMST1050	50ul	* TG520N, TG570N, TG620N, TG670N, DAPI	10-color TSA dyes
TGMST10100	100ul		

## TSA mIHC Assay Kits

구성품 :

- TSA Amplification reagent (can change the dye combination on demand)
- Amplification diluents buffer
- Antigen retrieval buffer (or Stripping Buffer for frozen/cell slide)
- Mounting medium
- Peroxidase blocking solution
- Primary antibody

Cat No.	규격	제품정보 (TSA dyes)	제품명
TGT4C5	50ul	* TG520N, TG570N, TG670N, DAPI	FFPE 4-color TSA mIHC Kit
TGT4C100	100ul		
TGT5C50	50ul	* TG520N, TG570N, TG620N, TG670N, DAPI	FFPE 5-color TSA mIHC Kit
TGT5C100	100ul		
TGT6C50	50ul	* TG520N, TG570N, TG620N, TG650N, TG700N, DAPI	FFPE 6-color TSA mIHC Kit
TGT6C100	100ul		
TGT7C50	50ul	* TG440N, TG520N, TG570N, TG650N, TG700N, TG660S, TG470SN	FFPE 7-color TSA mIHC Kit
TGT7C100	100ul		
TGMST850	50ul	* TG440N, TG520N, TG540N, TG570N, TG620N, TG650N, TG700N, TG470SN	FFPE 8-color TSA mIHC Kit
TGMST8100	100ul		
TGMST950	50ul	* TG440N, TG520N, TG540N, TG570N, TG620N, TG650N, TG700N, TG540S, TG470SN	FFPE 9-color TSA mIHC Kit
TGMST9100	100ul		
TGMST1050	50ul	* TG440N, TG520N, TG540N, TG570N, TG620N, TG650N, TG700N, TG540S, TG660S, TG470SN	FFPE 10-color TSA mIHC Kit
TGMST10100	100ul		

# TissueFAXS Cytometer

## Product Features

- Whole slide Scanning for bright field, Fluorescent, 3D structure, and multi-spectrum
- AI-based tissue classifier for recognizing tissue structure
- Interpret your tissue images into FACS language
- 고해상도 현미경 슬라이드 이미징
- 다중 슬라이드 120장 자동 이미징
- FISH, CISH분석
- 조직내부의 개별세포감지 및 발현 맥락분석
- 조직 공간적 미세 환경분석
- TME(Tissue Microenvironment)분석
- CME(Cellular Microenvironment)분석
- 다중 스펙트럼 영상 획득, 자가형광 및 중복배재
- 형광 스펙트럼배재(Spectral Unmixing)
- 라이브 셀 이미징
- High Content Phenotyping











## TissueFAXS Configuration

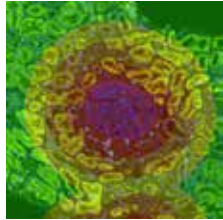
Models	Histo	Fluo	Plus	Q+	Spectra	iPlus
<b>Applications</b>	BF	FL	BF + FL	Thick sample/ 3D structure, Confocal	Multiplexed IF, Spectral Unmixing	Living Cell
<b>Slide Capacity</b>	Standard: 8 Slides (76 x 26 mm) 4 Double-Size Slides 2 Four-time Size Slides 1 Extra Large Slide(76 x 208 mm) Option: 120 slide loader					Standard 8 Slides 6-384 wells plate
<b>Objectives</b>	Up to 7 positions, capable of 100 x oil lens					up to 6 positions, capable of 100X
<b>FL Channel</b>	0	9	9	6	10+1	9
<b>Z-stacks</b>	Max, 40 layers					
<b>Upgrade</b>	Pluse, Q+ Spectra	Plus, Q+, Spectra	Plus, Q+, Spectra	-	-	Q+

# TissueFAXS System

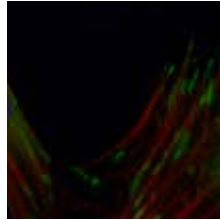
- Zeiss현미경 기반으로 스탠드유형(정립 또는 도립), 대물렌즈, 형광필터 선택가능. 점진적 업그레이드 가능(StrataFAXS II 제외)
- TissueFAXS acquisition software 및 viewer, 컴퓨터 기본제공, 분석 소프트웨어 선택

			
<p><b>StrataFAXS II</b></p>	<p><b>TissueFAXS Histo</b></p>	<p><b>TissueFAXS Fluor</b></p>	<p><b>TissueFAXS Plus</b></p>
<ul style="list-style-type: none"> <li>• IHC 슬라이드 2장 스캔, 대물렌즈 1개, 실시간 스티칭</li> <li>• 매우 사용하기 쉬워</li> <li>• 개인연구 및 병리교육에 적합</li> </ul>	<ul style="list-style-type: none"> <li>• IHC 슬라이드 8장 스캔</li> </ul>	<ul style="list-style-type: none"> <li>• 형광 슬라이드 8장 스캔</li> </ul>	<ul style="list-style-type: none"> <li>• IHC 및 형광 슬라이드 8장 스캔</li> <li>• 일반권장모델</li> </ul>
			
<p><b>TissueFAXS Chroma</b></p>	<p><b>TissueFAXS Spectra</b></p>	<p><b>TissueFAXS SL</b></p>	<p><b>TissueFAXS Q</b></p>
<ul style="list-style-type: none"> <li>• 형광 슬라이드 8장 스캔</li> <li>• Crosstalk free 밴드패스 필터큐브</li> <li>• 경제적인 8채널 형광이미징</li> </ul>	<ul style="list-style-type: none"> <li>• IHC 및 형광 슬라이드 8장 스캔</li> <li>• Crosstalk free scan</li> <li>• 420-730nm 파장별 스캔 및 Spectral Unmixing 기능으로 자가형광 배제 및 dye간 cross talk 제거</li> <li>• TIL (Tumor infiltrating Lymphocyte), 및 암조직미세 환경연구에 적합</li> </ul>	<ul style="list-style-type: none"> <li>• Auto Slide Loader option</li> <li>• 표준크기 120장 슬라이드</li> <li>• 대용량 스캔 및 희귀특성세포 검색에 적합</li> </ul>	<ul style="list-style-type: none"> <li>• IHC 형광 슬라이드 8장 스캔</li> <li>• Spinning disk confocal</li> <li>• 두꺼운 조직 및 뇌조직 이미징에 적합</li> </ul>

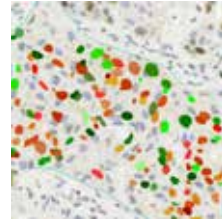
# Image Cytometry Analysis Software



StrataQUEST



TissueQUEST

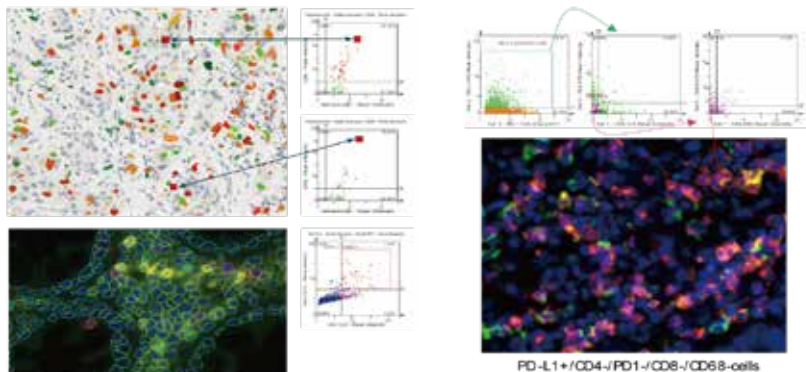


HistoQUEST

제품명	특징
StrataQuest Histo	명시야 슬라이드 이미지 분석 및 영상처리, AI분석 및 App생성
StrataQuest Fluo	형광 슬라이드 이미지 분석 및 영상처리, AI분석 및 App생성
StrataQuest Plus	명시야 및 형광슬라이드 이미지 분석 및 영상처리, AI분석 및 App생성
StrataQuest App	지정된 기능만 가진 App로 총 58가지가 있음 <a href="https://tissuegnostics.com/products/contextual-image-analysis/strataquest-apps">https://tissuegnostics.com/products/contextual-image-analysis/strataquest-apps</a> HistoQuest기능 : IHC2, IHC3 TissueQuest기능: IF2, IF3, IF4
HistoQuest	명시야 슬라이드 이미지 분석
TissueQuest	형광 슬라이드 이미지 분석

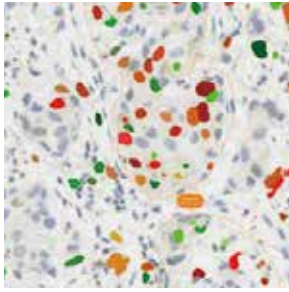
Cytometry소프트웨어 기본기능 : 조직영상내의 개별 세포를 인식하고 유세포분석 (FACS)처럼 Scatter Plot의 Gate기능으로 타겟세포를 선정하며 그 조직 내 해당 세포종류의 분포양상 및 위치를 파악할 수 있습니다.

- Scatter Plot 축에는 채널별 시그널 강도 및 형태관련 인자 18가지를 사용할 수 있습니다. (area, mean intensity, sum intensity, percentile, perimeter 등등)
- 조직영상의 개별 세포를 마우스 클릭하면 Scatter Plot상의 위치를 표시하여 세포특성을 파악할 수 있습니다.
- 다양한 표지자 특성을 다중Gating을 활용하여 선정하여 조직내 세포위치를 확인합니다.

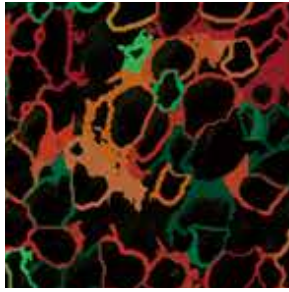




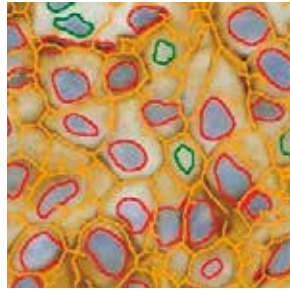
Single-cell Analysis




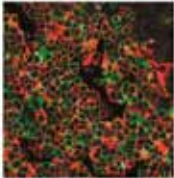
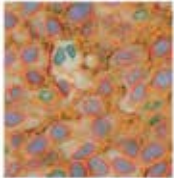
Nuclei Segmentation



Cytoplasmic Identification



Membrane Detection

<p><b>디지털 시료 импорт</b></p>	<p>IHC &amp; FL 시료 조직슬라이드, TMA 및 배양세포용기</p>
<p><b>자동 세그멘테이션</b></p>	<p>Segmentation Methods</p> <ul style="list-style-type: none"> <li>• Nuclear Segmentation</li> <li>• Nuclear Segmentation Deep Learning</li> <li>• Total Area Measurement</li> <li>• Dot detection</li> <li>• Membrane Detection</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p style="display: flex; justify-content: space-around; font-size: small;"> <span>Nuclei segmentation</span> <span>Cytoplasmic identification</span> <span>Membrane detection</span> </p>
<p><b>조직 Region / ROI 지정</b></p>	<p>조직윤곽을 자동으로 지정하나 사용자가 원하는 부위를 수동으로 ROI 지정할 수 있다</p>
<p><b>자동 정량분석</b></p>	<p>마커 또는 event에 따라 18개 기본 파라미터에서 지정하여 (기본 Average Intensity vs Area) 스캐터 플롯 및 히스토그램으로 표시합니다.</p> <ul style="list-style-type: none"> <li>• Z stack 및 timelapse 데이터 분석</li> </ul> <p>기본 파라미터</p> <div style="border: 2px dashed black; padding: 10px; margin-top: 10px;"> <p>Area, Mean Intensity, Minimum of Intensity, Maximum of Intensity, Range of Intensity, Sum Intensity, Percentile, Percentile-Lower Mean, Percentile-Upper Mean, Variance of Intensity, STD of Intensity, Equivalent Diameter, Perimete, Compactness, Eccentricity, Minimum Width, Maximum Length, Feret Ratio</p> </div>



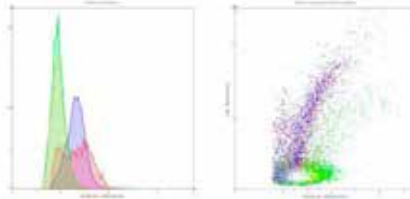
데이터 검증

Backward connection : 스퀀터 플롯에 지정한 영역의 세포를 이미지상에 다른 색으로 표시  
 Forward connection : 이미지상의 개별 세포를 클릭하면 스퀀터 플롯상에서도 표시

- 영상 세트비교 툴

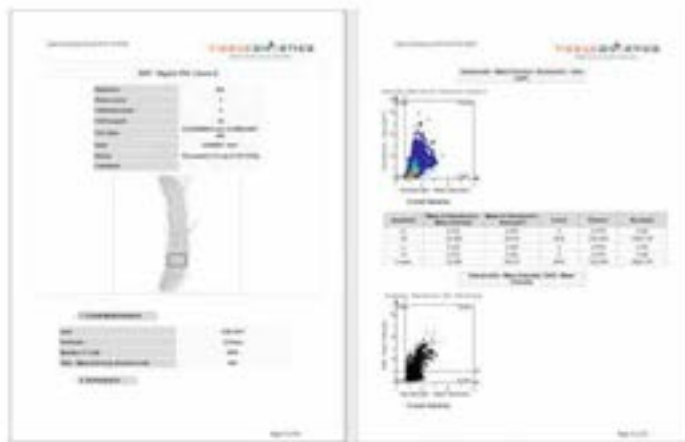


- 데이터 세트비교 툴



결과 익스포트

결과보고서, 영상, 스퀀터플롯 등을 pdf, csv, tiff 등으로 익스포트함



# StrataQuest

## Product Features

### Import

- 영상유형 : 명시야 및 형광영상
- 시료영상 : 조직슬라이드, TMA, 배양세포, Smear 등

### 유선형 single-cell 분석 소프트웨어 (IF & IHC App) : 조직영상에서 단일세포를 자동 구분 및 정량

- Deep-learning nuclear segmentation
- 영상 및 데이터 비교툴
- Image crops feature for scattergrams
- Z-stack and time-lapse analysis
- 결과파일 : 보고서 pdf, 테이블 csv 및 이미지 tif, png 등 저장

### 머신러닝 조직분류기 및 meta-structure detection

#### 맥락적 조직내 세포분석

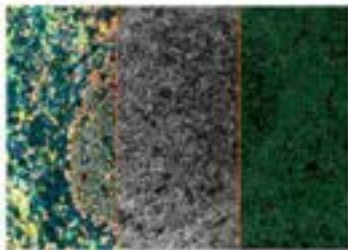
- 거리 별 또는 근접 세포수 측정
- Tissue microenvironment 분석 및 공간적 분석

### Spectral unmixing

#### Custom App : 원하는 형태로 분석절차를 구성하여 App으로 저장하여 자동실행

- 50여 가지의 표준분석 App
- 다양한 영상전처리 옵션

## 인공지능을 활용한 영상 세포학분석

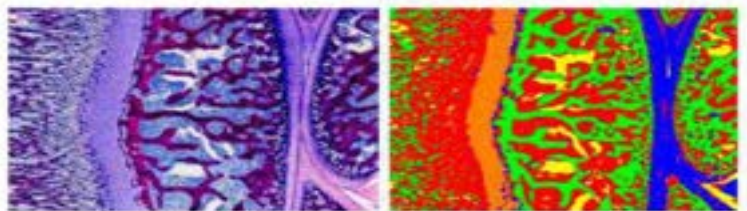


### 기계학습을 활용한 조직분류기

일부 조직영상에서 세포종류별로 지정하여 학습한 이후 전체 영상에 대해 자동으로 세포종류를 분류해줍니다. 학습된 프로파일은 다른 파일을 저장하고 불러올 수도 있습니다.

### Deep Learning Nuclear Segmentation

세포가 작아 핵 구분이 쉽지 않은 조직 (특히 림프절 및 암조직) 또는 핵 내 염색질 분포가 불규칙한 경우 등 DNN (Deep Neural Network)를 활용하여 segmentation 할 수 있습니다.



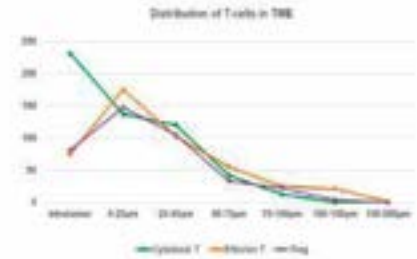
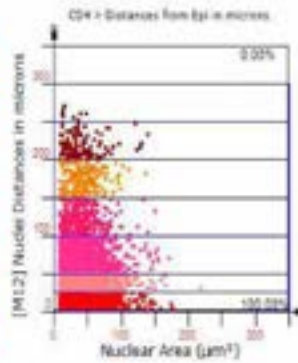
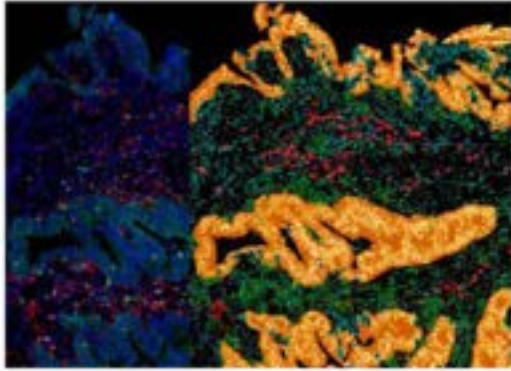
# 맥락적 조직내 세포분석

## Tumor Immune Microenvironment

- Distance mapping

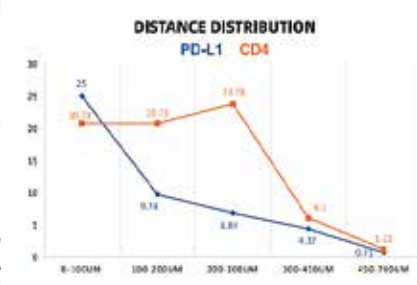
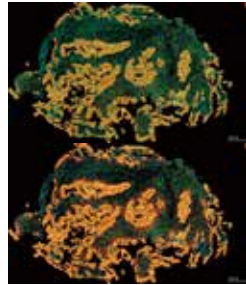
암조직으로부터 거리 별로 면역세포의 분포를 체크하여 T cell infiltration 상황을 관찰하세요.

PD-L1+ dendritic cells in the tumor microenvironment correlate with good prognosis and CD8+ T cell infiltration in colon cancer Cancer Sci. 2020 Dec 20



In red:  
CD4+ lymphocytes 50-100 µm  
away from tumor border

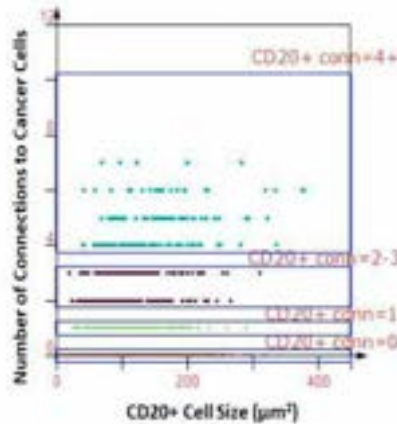
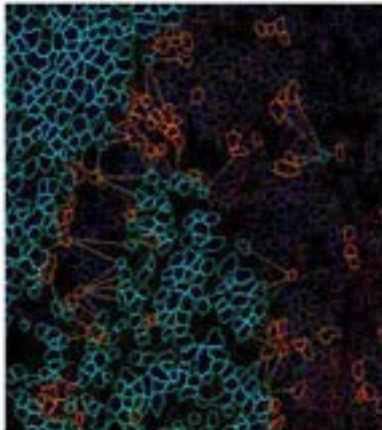
In red:  
CD4+ lymphocytes 1-25µm  
away from tumor border



- Cell Connectivity Analysis

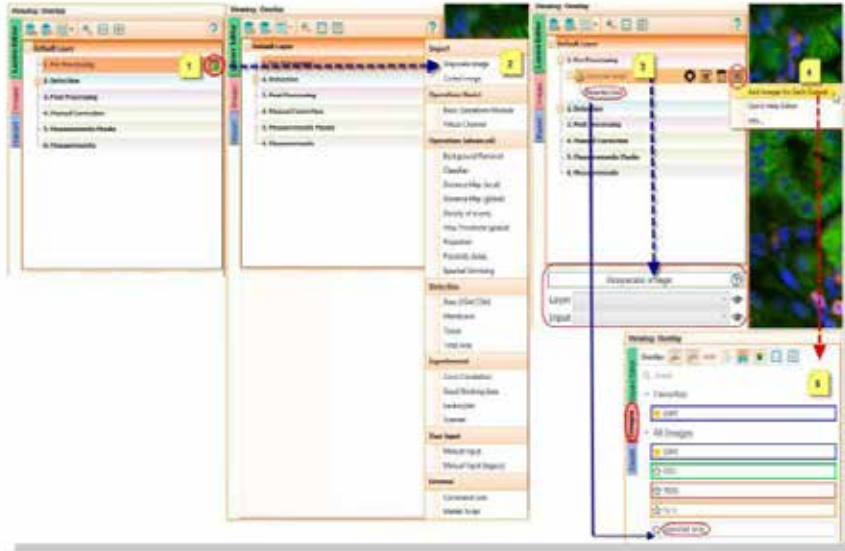
특정 면역세포로부터 일정거리 내에 있는 암세포의 수를 차트화하여 면역세포의 분포경향을 파악할 수 있습니다. 아래 예시는 triple negative breast cancer 조직에서 CD20+ 세포가 50um 이내의 암세포수를 차트화 하였습니다.

The spatial dynamics of the human tumor immune microenvironment (TIME) EACR Congress, June 2021

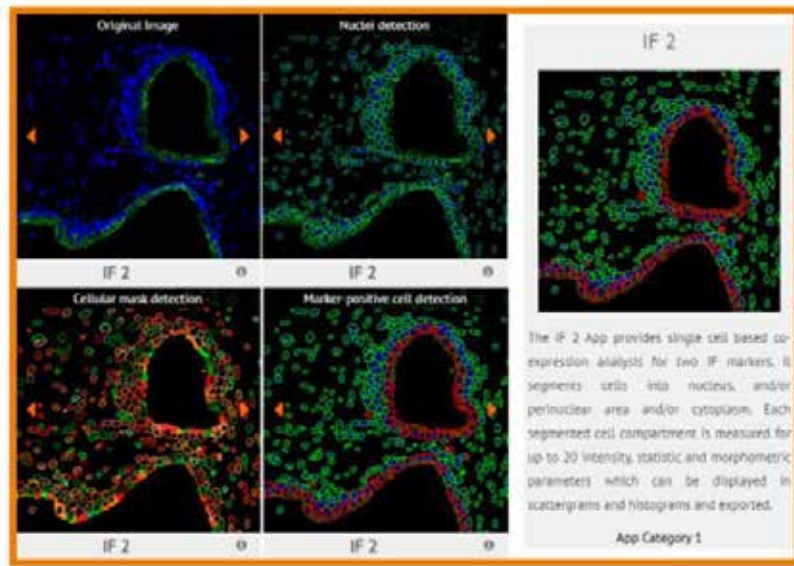


# App

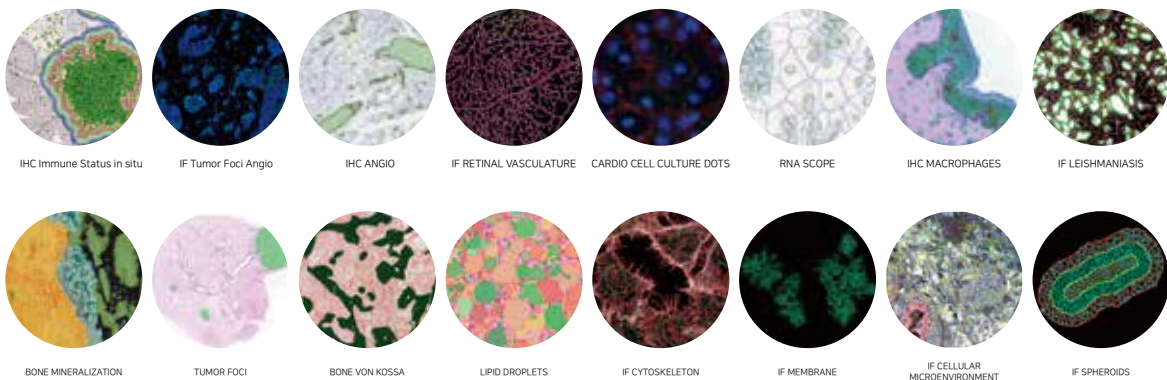
Custom App : 영상분석 및 정량절차를 App 파일로 저장하여 추후에 불러와서 사용할 수 있습니다.



표준 App : 다양한 기능의 App을 옵션으로 제공하여 필요 시 구매하여 분석할 수 있습니다.



Discover the Secret of Spatial Biology





# Novogene NGS Service



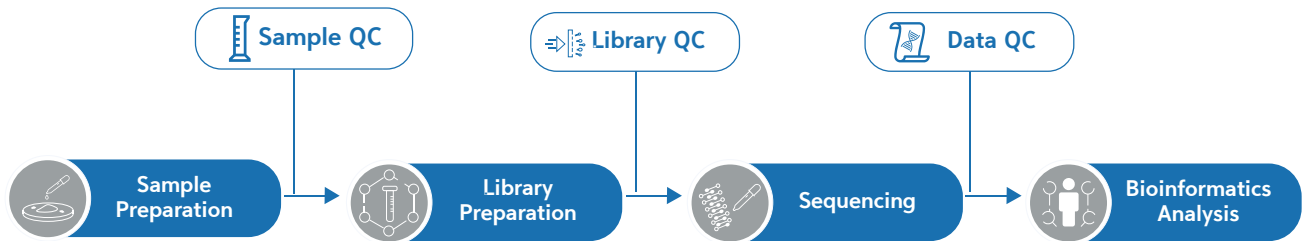
## Global Coverage and Lab Network



Novogene은 최신 NGS 기술 및 전문성을 갖춘 세계 최대의 글로벌 NGS 서비스 제공업체입니다.

- Illumina, PacBio, Oxford Nanopore 최신 기술을 사용
- Fully automation system (Falcon)을 통해 정확도, 신뢰성 높은 데이터 생산 및 처리 시간 향상
- 연간 280,000개 이상의 Human WGS를 처리할 수 있는 슈퍼 컴퓨팅 기능 보유
- 엄격한 품질 관리를 통한 High data quality (Q30>80%, exceed Illumina's official benchmark) 보장

## Project workflow & Advantages



- NEBNext, Illumina library kit를 사용한 high quality, high yield 라이브러리 생산
- 3 번의 quality check: Sample QC/ Library QC/ Data QC
- In-house pipeline을 사용한 standard analysis 서비스 제공
- 논문에 출간 가능한 figure 제공
- 빠른 Turnaround time

## Research service

Target species: Human, Animal, Plant, Bacteria etc

Genome	Transcriptome	Microbial	Epigenomics
<ul style="list-style-type: none"> <li>• Human/ Plant &amp; Animal Whole Genome Sequencing</li> <li>• Human/ Plant &amp; Animal De novo Sequencing</li> <li>• Whole Exome Sequencing</li> </ul>	<ul style="list-style-type: none"> <li>• mRNA Sequencing</li> <li>• Non-coding RNA Seq</li> <li>• Isoform</li> <li>• Whole Transcriptome Seq</li> </ul>	<ul style="list-style-type: none"> <li>• Shotgun Metagenomics</li> <li>• Amplicon Metagenomics</li> <li>• Full length 16S</li> <li>• Microbial De novo</li> <li>• Microbial Resequencing</li> </ul>	<ul style="list-style-type: none"> <li>• ChIP Sequencing</li> <li>• RIP Sequencing</li> <li>• Whole Genome Bisulfite Sequencing (WGBS)</li> <li>• Reduced Representation Bisulfite Sequencing (RRBS)</li> </ul>

# Novogene NGS Service



## Genome Sequencing

### Services:

Whole Genome sequencing

- Human Whole Genome Sequencing
- Animal and Plant Whole Genome Sequencing
- Microbial Whole Genome Sequencing

Target Capture sequencing (Exome/Target region)

- Human Whole Exome Sequencing
- Mouse Whole Exome Sequencing
- Target Region Sequencing
- Clinical Whole Exome Sequencing

De novo sequencing

- Animal and Plant De novo Sequencing
- Microbial De novo Sequencing

### Platform:

NovaSeq 6000, NovaSeq X Plus,  
PacBio Revio System, PacBio Sequel II/IIe System,  
Nanopore PromethION



## Transcriptome Sequencing

### Services:

#### Eukaryote

- mRNA Sequencing
- Non-coding RNA Sequencing
  - Long Non-coding RNA Sequencing
  - Small RNA Sequencing
  - Circular RNA Sequencing
- Whole Transcriptome Sequencing
- Isoform Sequencing

#### Prokaryote

- Prokaryotic RNA Sequencing
- Metatranscriptome Sequencing

### Platform:

NovaSeq 6000, PacBio sequel II/IIe PacBio Revio System





# ScaleBio™ Single Cell RNA Sequencing Kit

## Description

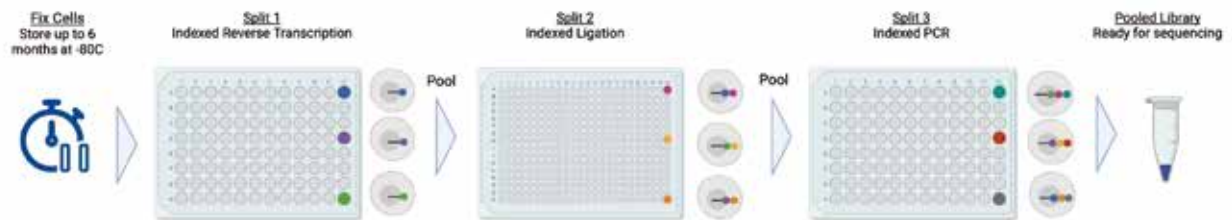
ScaleBio사의 Single Cell RNA 시퀀싱 키트를 사용하면 고품질의 Single Cell Transcriptome Library를 생성할 수 있습니다. 해당 키트를 선행 세포 고정 단계에 사용하면 단일 실험에서 96개의 시료로부터 최대 500,000개의 세포를 프로파일링 할 수 있습니다.



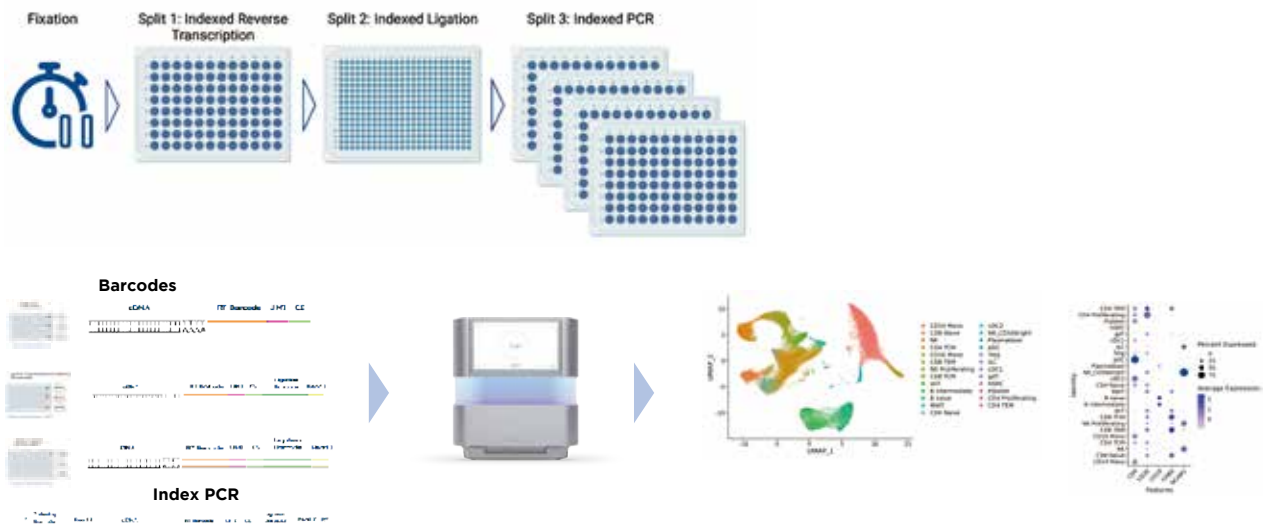
## Product Features

- Sample Compatibility**  
 Fixation-compatible workflow, for both cells and nuclei, with storage up to 6 months.
- Cell Throughput**  
 Process 125,000 cells or nuclei per run, or up to 500,000 cells or nuclei per run with Extended Throughput Kits.
- Sample Multiplexing**  
 Up to 96 samples per run
- Unique Combinations**  
 Generate >3.5 million barcode combinations with three levels of indexing, while maintaining a <5% doublet rate

## Single Cell RNA Sequencing workflow



## Extended Throughput Kits for increased cell throughput



# ScaleBio™ Single Cell Methylation

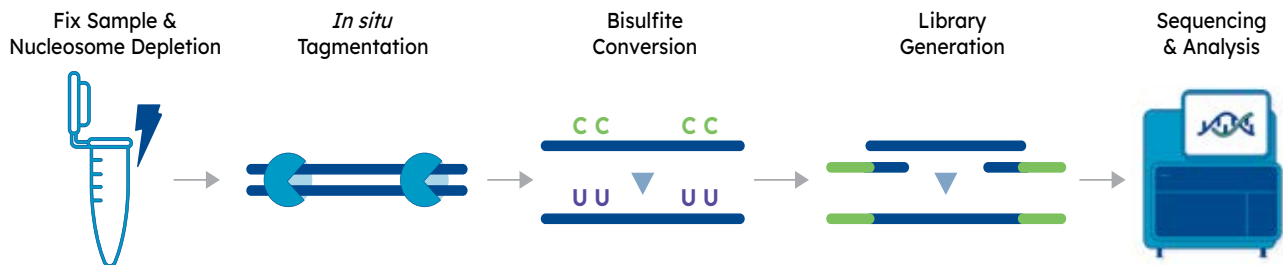
## Description

ScaleBio의 단일 세포 메틸화 키트는 단일 세포의 메틸화 양상 분석을 위한 최초의 상용화된 솔루션 키트입니다. 본 키트를 사용하면 수만 개의 세포에 대하여 단일 세포 수준의 메틸화 상태를 프로파일링할 수 있으며, 샘플의 수집, 보관, 운반에 있어서 보다 유연하게 조절이 가능하여 원하는 시간에 실험을 수행할 수 있습니다.



## Highlights

- **Maximum Scalability**  
Profile single-cell methylation states across tens of thousands of cells
- **Utmost Flexibility**  
Adapt sample collection, storage, and transport to process samples on your own time
- **Powerful Chemistry**  
Detection of >300 thousand CpG sites per cell in a single run
- **Streamlined workflow**  
Complete the workflow without the need for new instrument using equipment already in your lab or institution.



## Specification

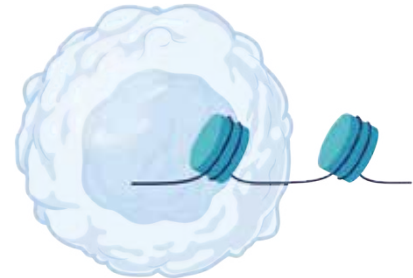
- Demonstrated across diverse sample types, cell lines, fresh and frozen tissue
- Demonstrated across a broad number of tissue types
- Fixation-compatible for sample storage, transport, and batching
- High cell throughput: > 18k nuclei/run
- Low multiplet rate: <4%
- Produces whole genome libraries
- Integrated sample multiplexing: multiplex up to 8 samples in a single run
- Efficient chemistries with high de-duplication rate >50% & excellent genome mapping rates >80%
- High performance: >300k CpGs detected
- Target enrichment compatible for reduced sequencing costs—maintaining high quality data sample throughput

# ScaleBio™ scATAC Pre-Indexing Kit

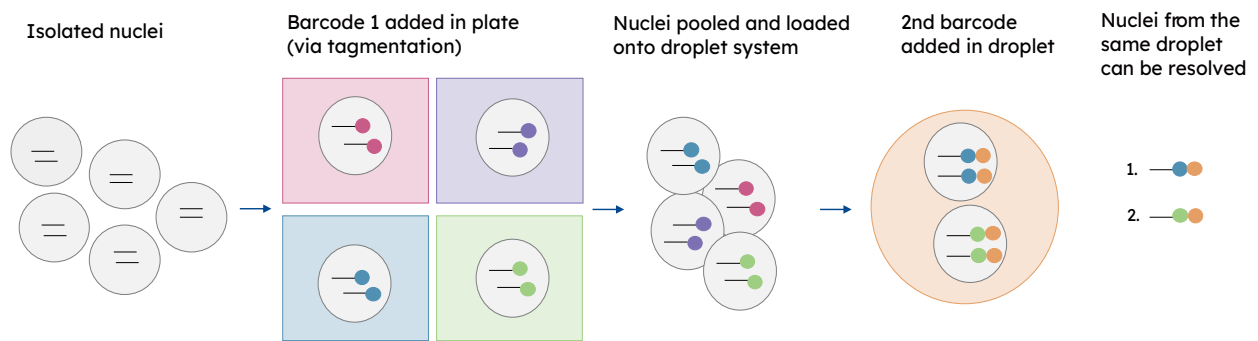
ScaleBio사의 단일 세포 ATAC Pre-Indexing 키트는 index combination을 통해 실험당 최대 300,000개의 핵에 대한 샘플 처리가 가능합니다. Tagmentation 동안, 추출한 핵에 대한 사전 바코딩을 통해 기존의 droplet 시스템을 superloading하여 획기적인 비용 감소와 더불어 데이터 품질을 저하시키지 않으면서 처리량을 10배 증가시킬 수 있습니다.

## Specification

- Throughput  
300,000 nuclei per run
- Recommended input  
~50,000 nuclei/well (x24 wells)
- Instrument compatibility  
On-market single-cell droplet capture systems, such as the 10X Chromium controller



## ScaleBio™ CRISPR Guide Enrichment Kit



**Pre-indexing workflow: 1.5 hours with 30 minutes of hands-on time**

Nuclei loaded into each barcoded tagmentation well (x24) → Pre-indexed nuclei are pooled → Up to 100,000 nuclei are loaded per channel → Recover 300,000 nuclei per run

ScaleBio's bioinformatics pipeline resolves the combinatorial barcode, rescuing data from multiplets and maintaining a 3-5% effective doublet rate.

Throughput	
Nuclei loaded into Scale plate	1.2M
Recovery after tagmentation plate	~600K
Nuclei loaded into on-market system	600K
Recovery from sequencing	~300K

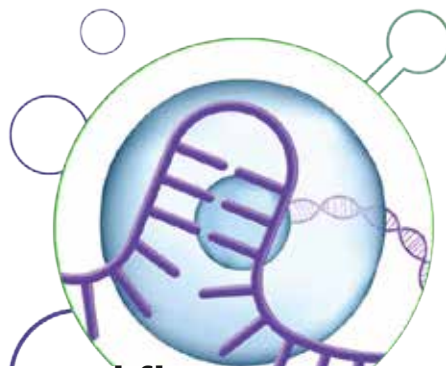
# ScaleBio™ CRISPR Guide Enrichment Kit

## Description

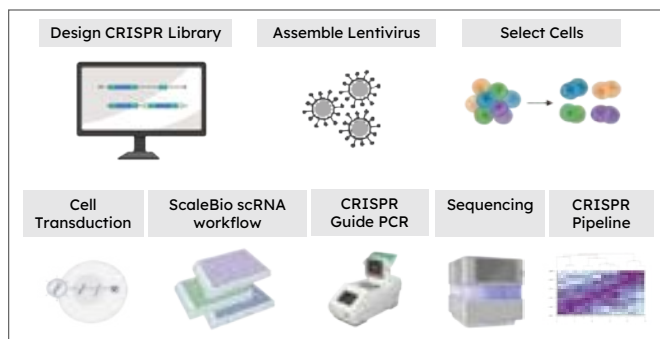
ScaleBio의 CRISPR Guide Enrichment Kit는 CROP-style vector로 부터 유래된 CRISPR guide 서열을 캡처할 수 있는 장점이 있습니다. Guide 검출을 최대화하기 위해 라이브러리 제작의 마지막 단계에서 PCR enrichment 뿐만 아니라 역전사 과정 중에 타겟 특이적인 프라이밍 과정을 포함합니다. 본 키트는 최대 96개 샘플의 멀티플렉싱뿐만 아니라 실험당 최대 500,000 개의 세포 혹은 핵에 대한 증가된 처리량을 가집니다.

## Highlights

- Sensitivity  
>90% cells with guide
- Throughput  
Up to 500,000 cells with extended throughput option
- Sample Throughput  
Up to 96 samples per run



## ScaleBio CRISPR Guide Enrichment Kit workflow



	Reads containing a real guide (guide library)	Cells with guide
<b>PolyA primer (Traditional CROPseq)</b>	<b>42%</b>	<b>67%</b>
<b>ScaleBio CRISPR Guide Enrichment Kit</b>	<b>93%</b>	<b>&gt;90%</b>

## Ordering Information

Product code	Product Description
110001	ATAC Pre-Indexing Kit 24-Plex
110101	ATAC Lane Indexing Primer Kit (96rxns)
2020001	Sample Fixation Kit
950884	ScaleBio Single Cell RNA Sequencing Kit v1.1
936360	ScaleBio Single Cell RNA Extended Throughput Kit v1.1
955100	ScaleBio CRISPR Guide Enrichment Kit v1.1
955097	ScaleBio Cas9 CRISPR Guide Enrichment Kit v1.1
945058	CRISPR Guide Enrichment Extended Throughput Kit v1.1
955253	ScaleBio™ Single Cell Methylation Nuclei Preparation Kit
955251	ScaleBio™ Single Cell Methylation Sequencing Kit - Small
955253	ScaleBio™ Single Cell Methylation Sequencing Kit - Large

# SYNTHEGO : The Best Choice for Genome Engineering

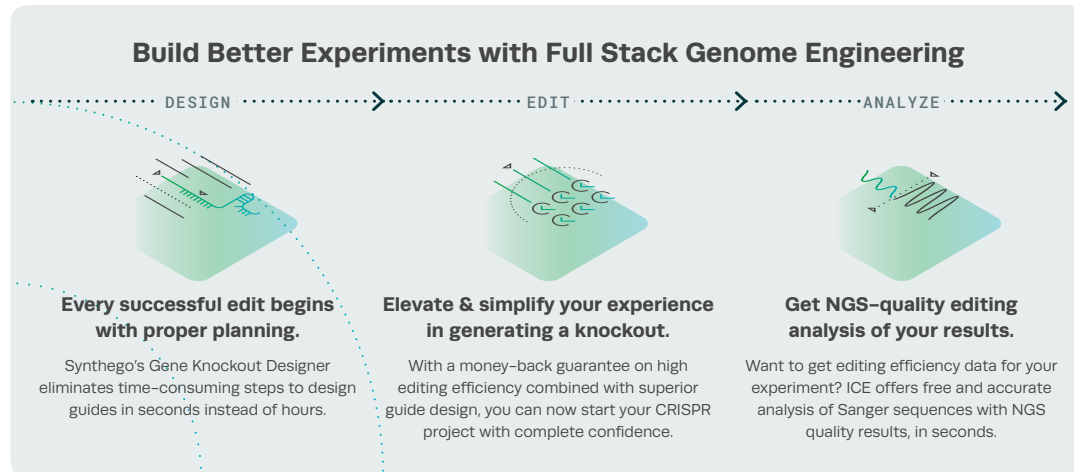
## Product Features

- Full Stack Genome Engineering Approach  
: Design → Edit → Analyze 전 단계에 대한 서비스 제공
- High-efficiency, High-quality Genome editing
- Full Automation Process
- Money-back guarantee program 고객만족 서비스
- 생산 단계에 대한 지속적인 monitoring 및 feedback 제공
- 머신러닝 기법 적용을 통한 지속적인 유전자 교정 제품 및 서비스 품질 개량

SYNTHEGO



## SYNTHEGO Full Stack Genome Engineering



## SYNTHEGO Ensures High-efficient method for Genome Editing

	Alternative Gene Editing Services	Synthego
<b>Reagents</b> Some reagents (plasmid, lentivirus) cause delayed editing and unwanted effects	Plasmid, Lentivirus	Always RNP, using sgRNA
<b>Guides Tested</b> Identify the best guide quickly by testing more	1 at a time	Multiple at once
<b>Transfection Method</b> Lipid transfection reduces efficiency by up to 50%	Lipid-based	Electroporation
<b>Optimization Conditions Tested</b> Testing more means the best conditions for your cell line are identified	1 - few	200
<b>Selection Agents</b> Selection can be dangerous to the genomic health and integrity of your cell line	Antibiotics or GFP enrichment	None
<b>Lead Time</b> Limited capacity means more waiting for you	Capacity and queue-dependent	No queue
<b>QC</b> Sequence-based QC accurately indicate editing efficiency	Cleavage assay	NGS-quality analysis with ICE
<b>Money-back Guarantee</b> Mitigate the risks of taking on challenging projects	None	100% guarantee on a majority of projects

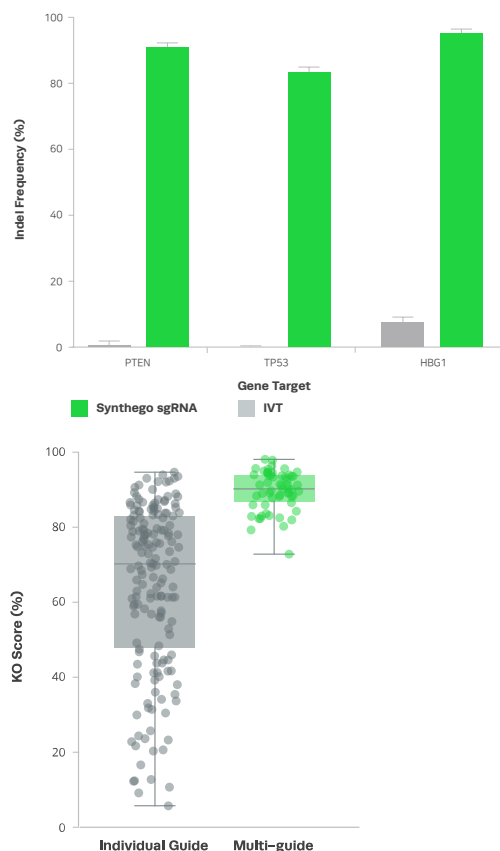


# CRISPRevolution Kits : The Gold Standard for Superior CRISPR Editing

## Synthetic gRNA Products

Synthetic sgRNA	Advanced RNA
<ul style="list-style-type: none"> <li>• Synthetic single guide RNAs (sgRNAs)</li> <li>• 최대 97%의 edit efficiency 제공</li> <li>• 모든 cell type에 적용 가능</li> <li>• 1.5~100+ nmol 다양한 scale 제공</li> <li>• Chemical Modification 가능</li> <li>• Fast &amp; easy : No annealing purification</li> </ul>	<ul style="list-style-type: none"> <li>• 다양한 Cas nuclease 맞춤형 guide RNA 합성가능 (SpCas9, Cas12a (Cpf1), SaCas9 &amp; Cas13a)</li> <li>• Guide RNA의 secondary structure 변형가능</li> <li>• 고순도 최고의 quality 제품</li> <li>• Chemical Modifications 가능</li> <li>• 20 ~ 115 nt sgRNA</li> </ul>
Gene Knockout Kit v2	Arrayed CRISPR gRNA Libraries
<ul style="list-style-type: none"> <li>• Human gene knockout 보장하는 sgRNA제공</li> <li>• 유전자당 최대 3개의 Multi-guide Strategy</li> <li>• Chemical Modifications를 통한 세포 내 degradation 및 immune response 방지</li> <li>• Transfection Optimization Kit 별매</li> </ul>	<ul style="list-style-type: none"> <li>• 많은 수의 gene을 한 번에 screening할 수 있는 panel 제품</li> <li>• Well 당 하나의 target gene sgRNA를 포함한 multiwell plate</li> <li>• Gene 당 3 개의 Multi-guide Strategy 적용</li> <li>• Genotype에서 phenotype으로 연결 분석</li> <li>• Whole Genome, Pathway, and Custom Library 제공</li> <li>• any human cell type 적용가능</li> </ul>

## Synthego sgRNA Delivers Robust and Reliable CRISPR Editing



### IVT Guides are Less Efficient.

sgRNA sequences were either generated by *in vitro* transcription (IVT) or synthesized by Synthego as chemically modified sgRNAs. Indel frequency from experiments using Synthego sgRNA was always >90%, while editing by the IVT guides was always less than 10% and sometimes undetectable. Data courtesy of Shondra Pruett-Miller, Ph.D., St. Jude Children's Research Hospital.

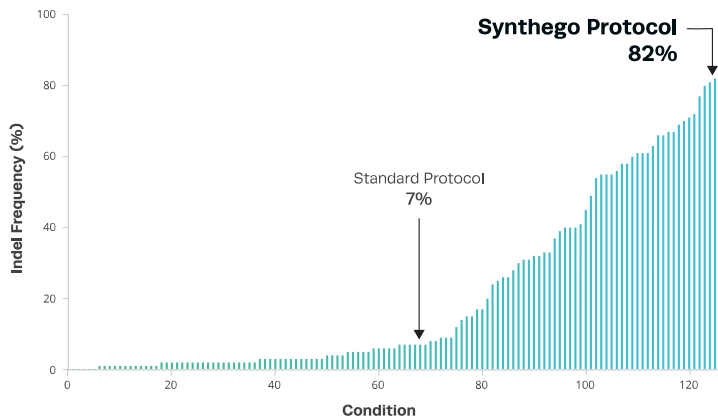
### Knock Out Any Human or Mouse Protein-Coding Gene

Elevate your CRISPR knockout strategy for any human or mouse protein-coding gene. Synthego's multi-guide design consistently results in high Knockout (KO) Scores compared to strategies that rely on individual sgRNAs to produce knockout, making the Gene Knockout Kit v2 the best knockout solution available.

# CRISPR Revolution Kits : The Gold Standard for Superior CRISPR Editing

## Engineered Cells Line 제작서비스

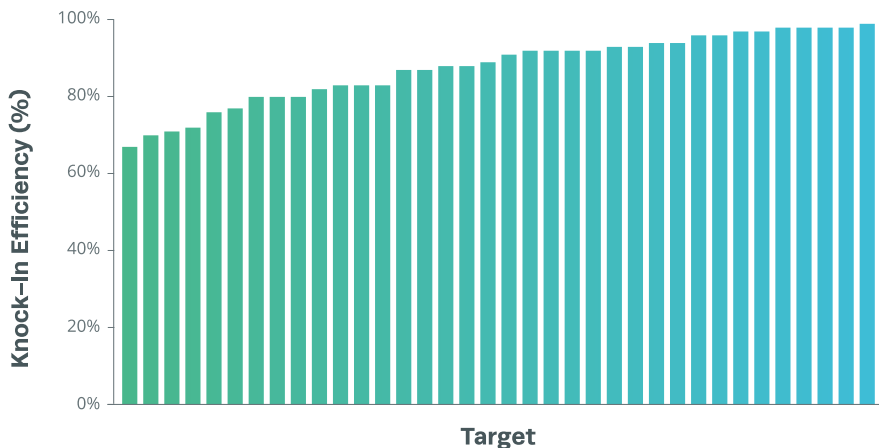
Knockout Cell Pool	Knockout Cell Clone	Advanced Cell	iPS Cell
Edited & unedited cells가 혼합된 cell pool	Edited cell만으로 구성된 Knockout cell clone	Large Sequence Insertion, SNV, molecule Tagging 등의 다양한 Knock-In Editing Cell Line	iPS cells을 활용한 High-efficiency, High-quality Genome editing Cell Line
70% 이상의 gene knockout 보장	100% 타겟 gene knockout 보장	Pool or Clone 형태의 Cell Line 제작 서비스	Knockouts / Single Nucleotide Variants (SNV) / tags
700 개 이상의 Human / Mouse 세포주 활용 가능			PGP1 (male line), 771-32M (male line), 802-30F (female line)



## 200 Ways We Optimize CRISPR

Difficult-to-transfect cell lines are conquered with Synthego’s cell line transfection optimization. In this example, THP-1 cells which typically edit at less than 7%, our 200 point transfection optimization identified a condition to achieve 82% editing efficiency. We guarantee at least a 50% reduction in protein levels, and commonly see knockout efficiencies of 75% or greater.

## High knock-in efficiencies are achieved using Synthego’s optimized HDR editing strategy.



CRISPR: Synthego

# Express Cell Pools

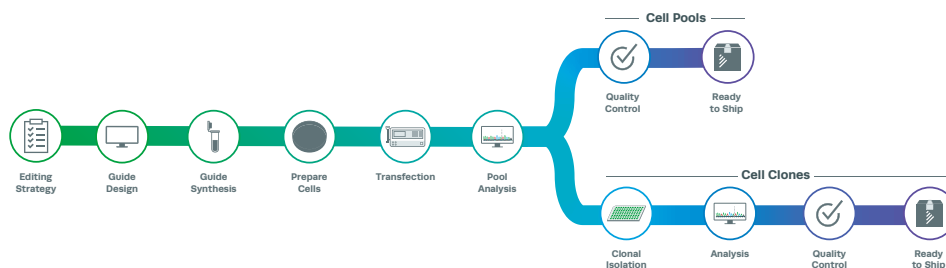
## Generate Assay Results with Speed and Confidence



Express Cell Pools workflow includes either multi-guide design or user defined sgRNA sequence, transfection and cell pool generation, genotyping, and sequencing analysis.

Express Knockout Cell Pools	Express Custom Cell Pools	Standard Cell Pools
<b>Multi-guide Technology</b> Synthego defined sequences (up to 3 sgRNAs)	<b>User-defined sgRNA</b> User defined sgRNA sequence (1x sgRNA)	Synthego sgRNA Synthego defined sgRNA sequence (1x sgRNA)
Eligible immortalized cell lines	Eligible immortalized cell lines	Human or mouse immortalized cell lines Human induced pluripotent stem cell lines
Synthego supplied cells	Synthego supplied cells	Synthego supplied or user supplied cells
Knockouts	Knockouts	Knockouts Knock-ins
3 weeks or faster!	3 weeks or faster!	Knockouts: 4-10 weeks Knock-ins: 6-12 weeks
2 vials, >100k cells/vial	2 vials, >100k cells/vial	~500k cells
Analyzed by Sanger Sequencing and ICE	Analyzed by Sanger Sequencing and ICE	Analyzed by Sanger Sequencing and ICE
<b>QC Report</b> <ul style="list-style-type: none"> <li>• Mycoplasma testing</li> <li>• Passage number</li> <li>• Editing efficiency</li> <li>• Primer sequences</li> <li>• Sequences of sgRNA used</li> </ul>	<b>QC Report</b> <ul style="list-style-type: none"> <li>• Mycoplasma testing</li> <li>• Passage number</li> <li>• Editing efficiency</li> <li>• Primer sequences</li> <li>• Sequences of sgRNA used</li> </ul>	<b>QC Report</b> <ul style="list-style-type: none"> <li>• Mycoplasma testing</li> <li>• Passage number</li> <li>• Editing efficiency</li> <li>• Primer sequences</li> <li>• Sequences of sgRNA used</li> </ul>
Greater than 50% editing efficiency compared to wild type *except for common essential genes	Greater than 50% edited efficiency for positive control cells	Great than 50% editing efficiency compared to wild type *except for common essential genes

## Synthego Has Developed a Robust Method for CRISPR Editing



# TransOMIC: CRISPR, RNAi and screening libraries

## Product Features

- CRISPR Cas9 와 RNAi 활용한 신속하고 쉬운 유전자 발현 조작 도구
- 유전자 knockout, knockdown, activation, and interference 종합적인 솔루션 제공
- Transomic Technologies 전문 과학자가 연구 시작에서 종료까지 technical support
- Cell line에 적합한 vector와 promoter, 실험에 맞는 fluorescent reporter gene과 purification or antibody detection 위한 tag 선택 가능
- 효율성 높은 sgRNA와 shRNA, 원하는 맞춤형 vector 안에 제공

## CRISPR-Cas9 Resources: CRISPR knockout, CRISPR Activation, and CRISPR Interference

### Features:

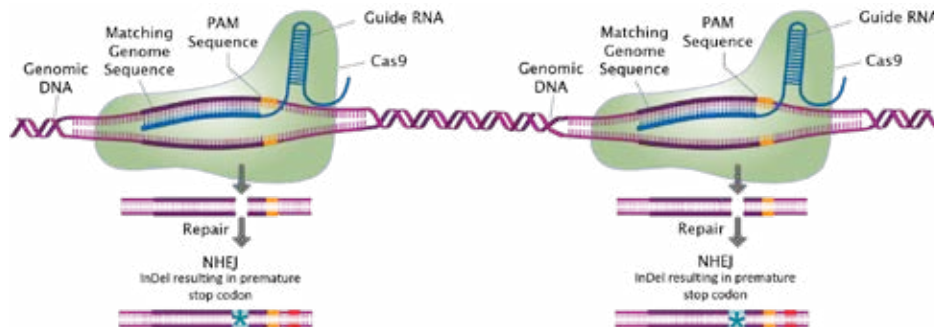
- Provides 3 lentivirus constructs containing a gRNA
- Negative control vector included
- Choose the construct format suitable for your experiment



pCLIP-gRNA  
pCLIP-All-In-One (gRNA + Cas9)



pCLIP-Dual



2개 유전자를 동시에 target 가능!

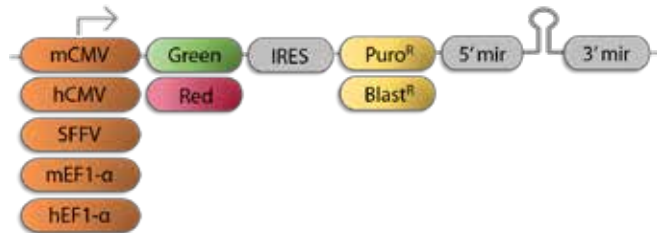
# TransOMIC: CRISPR, RNAi and screening libraries

## RNAi Resources : Gene knockdown using shRNA

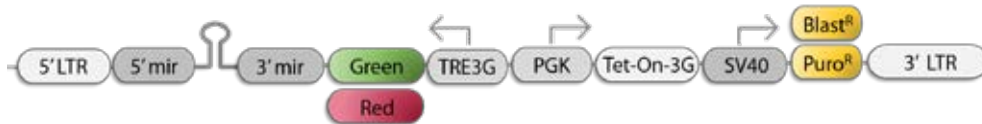
### Features:

- 미국 Cold Spring Harbor 와 협업해서 만든 높은 효율의 shRNA
- shERWOOD algorithm designs - superior knockdown performance relative to existing shRNA designs
- UltramiR scaffold - increases shRNA processing and potency
- 실험 목적과 cell line에 맞는 constitutive or inducible promoter 선택 가능
- 유연한 맞춤형 Vector에 효율성 높은 shRNA 제작

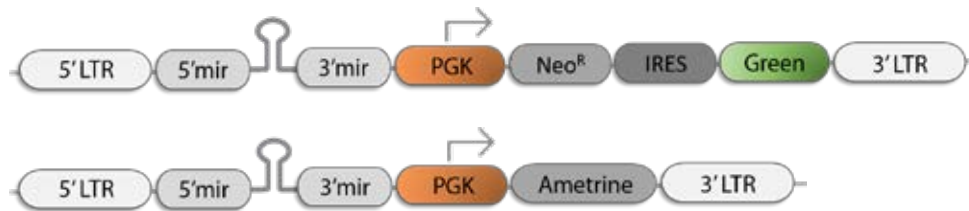
Lentiviral vectors



Inducible Lentiviral vectors



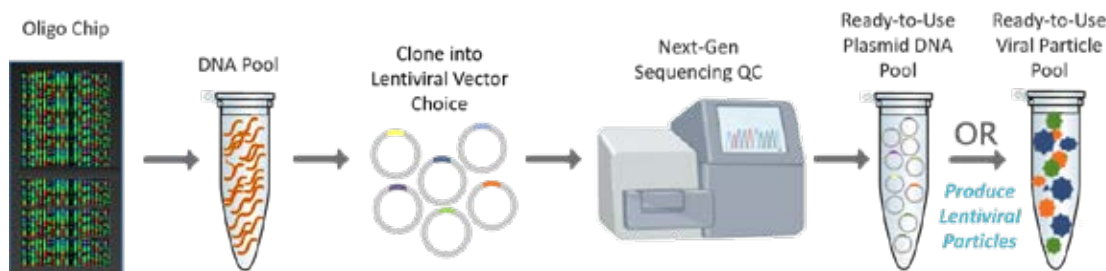
Retroviral vectors



## CRISPR Custom Pooled Screen Libraries

### Features:

- Multiple lentiviral vector options to choose from.
- Next-gen sequencing QC is performed to confirm equal representation of all constructs.
- Delivered as plasmid DNA or ready-to-use lentiviral particles.
- Next-gen sequencing and deconvolution services available.
- Delivery in as few as 6 weeks.



# TransOMIC: CRISPR, RNAi and screening libraries

## Gene Expression Resources : cDNA, ORF and LentiORF Select-Vectors™

### Features:

- Mammalian Gene Collection (MGC) premier human and mouse cDNA libraries
- High quality, fully sequenced cDNA and ORF clones, 학교 연구소 특별 가격 제공!
- The ORF clones are available in two formats, with and without stop codons
- Transomic's lentiviral ORF expression vector enables expression of a protein of interest with a V5 fusion tag for western blot detection, purification, co-immunoprecipitation, protein localization and FACS analysis
- Expression-ready clones or a Gateway entry vector로 받을 수 있습니다. 편리함과 시간 절약!

## Gene Expression Resources : cDNA, ORF and LentiORF Select-Vectors™

*유전자 연구 목적에 적합한 lentiviral vector and ORF sequence 직접 고르세요!*

Transomic 사는 연구하는 유전자에 가장 적합한 lentiviral ORF vector를 제공하고 있습니다. 350가지 이상 vector configurations 중에 선택할 수 있으므로 다양한 유전 발현 실험을 위한 유연성 있는 vector 설계가 가능합니다. Transomic 사가 제공하는 유전자 검색 기능으로 원하는 유전에 가장 적합하고 이상적인 lentiviral ORF vector를 실험 준비 시간을 단축해서 더 빠른 결과를 얻을 수가 있습니다.

### Available Vector Options:

- Constitutive or inducible vectors
- Antibiotic selection
- Fluorescent reporters
- Tags for purification or antibody detection

## Product List

Product	배송 방법
MGC premier cDNA clones	glycerol stocks/DNA Plasmid
MGC premier cDNA clones end-sequence verified before shipping	glycerol stocks/DNA Plasmid
MGC premier ORF clones	glycerol stocks/DNA Plasmid
MGC ORF clones end-sequence verified before shipping	glycerol stocks/DNA Plasmid
CRISPR target gene sets	glycerol stocks/DNA Plasmid
CRISPR target gene sets (lentiviral particles)	lentiviral particles
CRISPR Dual target gene sets	glycerol stocks/DNA Plasmid
CRISPR Dual target gene sets (lentiviral particles)	lentiviral particles
Cas9 and dCas9 expression vectors	glycerol stocks/DNA Plasmid
shRNA target gene sets	glycerol stocks/DNA Plasmid
shRNA target gene sets (lentiviral particles)	lentiviral particles
shRNA target inducible gene sets	glycerol stocks/DNA Plasmid
shRNA target inducible gene sets (lentiviral particles)	lentiviral particles
shRNA retroviral target inducible gene sets	glycerol stocks/DNA Plasmid
LentiORF Select-Vector	glycerol stocks/DNA Plasmid
LentiORF Select-Vector (lentiviral particles)	lentiviral particles
Yeast knockout strains	glycerol stocks
Custom CRISPR Screening Pools	glycerol stocks/DNA Plasmid



# 세포 및 조직 파쇄기 : taco™ Prep Bead Beater

GeneReach

## Product Features

- 한 번의 버튼으로 손쉽게 작동
- 다양한 샘플에 적용 가능
- 1~16 개 샘플까지 동시에 파쇄
- 회당 13 초 작동, 효과적 파쇄를 위한 횟수 설정 가능



## Specification & Related Products

Dimensions (mm)	30 × 25 × 24, 11 kg
Power Supply	100-240 V, 50 / 60 Hz, AC
Sample Capacity	16
Cycle duration	13 sec/cycle or 40 sec/cycle
Sample Type	All Biological samples

A-PSBT	tacoPrep Pre-loaded Steel Bead Tubes (100 pc/package)
A-PSB	tacoPrep Steel Beads (200 g/package)
A-PST	tacoPrep Beating Tubes (500 pc/package)

# Magnetic Bead 추출 시스템 : taco™ Nucleic Acid Automatic Extraction System

## Product Features

- Magnetic bead 방식을 이용한 Complete Extraction
- DNA / RNA 동시 추출 가능
- Cell, Tissue, Blood 등 다양한 샘플 적용 가능
- One Touch 방식의 쉬운 사용법
- UV lamp를 이용한 교차 오염 방지



## Specification & Related Products

Product	Taco mini Automatic Nucleic Acid Extraction System
Reaction time	30 mins
Throughput	1-8 samples
Decontamination	Available UV light
Dimensions (W x D x H, cm)	26 x 26.5 x 30
Weight	5 kg

atc-drna	taco DNA / RNA Extraction Kit (320 rxns)
atc-dna	taco Total DNA Extraction Kit (320 rxns)
atc-plant	taco Plant DNA / RNA Extraction Kit (320 rxns)
atc-Preloaded_drna	taco Preloaded DNA / RNA Extraction Set (48 rxns/set)
atc-Preloaded_dna	taco Preloaded Total DNA Extraction Set (48 rxns/set)

# 컬럼방식 자동화 핵산추출기기 시리즈




## Product Features

- Column 방식의 핵산 추출 장비
- DNA / RNA 개별 추출 가능
- 다양한 Sample Type 적용 가능  
(Cell, Tissue, FFPE, Liquid Biopsy etc.)
- 높은 농축 효율을 제공
- Liquid handling 시스템으로 PCR Setup 가능





# LabTurbo

## Specification & Related Products




Product (Cat. No)	LabTurbo 24C (C2420)	LabTurbo 48C (C4820)	LabTurbo 96XC (C96XC20)
Model Type			
Throughput	1-24 samples	1-48 samples	1-96 samples
Processing time	165 samples/8 hrs	240 samples/8 hrs	480 samples/8 hrs
Pipette	6 channel	6 channel	12 channel
Block format	6 x 4 wells	6 x 8 wells	6 x 16 wells
Tip Rack	2 racks	3 racks	4 racks
Dimensions (W x D x H, mm)	660 x 550 x 820	660 x 550 x 1,600	1,350 x 850 x 1,750
Component	<p>All-in-Unibody Robotic workstation</p> <ul style="list-style-type: none"> <li>• Span multi-channel pipette (10~1000 µl)</li> <li>• Thermoblock (RT~80 °C),</li> <li>• Lysate-wash Vacuum Manifold</li> <li>• Auto-reagent vending system</li> </ul> <p>&lt;24C / 48C&gt; &lt;96XC&gt;</p> <ul style="list-style-type: none"> <li>• Enzyme rack</li> <li>• HCCEB heating block</li> <li>• Elution vacuum manifold</li> </ul> <ul style="list-style-type: none"> <li>• 96 tip rack</li> <li>• Tip reuse rack</li> <li>• Tip discard rack</li> <li>• Ultrasonic Fluid sensor</li> <li>• Vacuum pump system</li> <li>• Waste system</li> <li>• Built-in touch screen</li> <li>• LabTurbo software</li> <li>• Operational manual</li> </ul> <p>&lt;LabTurbo 48C Worktable&gt;</p>		

# 컬럼방식 자동화 핵산추출기기 시리즈

## LabTurbo All-in-one System 샘플로딩 후 핵산추출 및 qPCR 자동진행

Product (Cat. No)	LabTurbo 24 AIO SP-qPCR (A2420)	LabTurbo 48 AIO SP-qPCR (A4820)
Model Type		
Sample Volume	0.3 - 2 ml	0.3 - 2 ml
Throughput	24 Samples in 2.8 hour	48 Samples in 3 hour
Pipette Channels and Volume	6 (Sliding Span 9 - 18 mm), 5 - 1000 ul, CV within 5%	
qPCR Channel	FAM, HEX, ROX, Cy5	
PCR Reaction Volume	15 - 60 ul, CV within 5%	
qPCR Ramping Rate	Heating : 2 °C/s, Cooling : 1.5 °C/s	
Temperature Accuracy	± 0.5 °C (after 30 seconds)	
Temperature Uniformity	± 0.2 °C at 50 °C, ± 0.3 °C at 72 °C, ± 0.5 °C at 95 °C	

## 핵산추출키트

Product (Cat. No)	Features	Component
LabTurbo 24C (C2420)	Whole blood, Buffy coat, Cell Culture, Bacteria Culture, Blood Cells, Saliva, Urine, Animal tissue, Plant tissue	<ul style="list-style-type: none"> <li>• 6-strip sample / elution tubes and cap</li> </ul> 
LabTurbo Virus kit (480 preps)	Serum, Plasma, Cell free body fluid, Buccal swab, Vaginal swab, Pharyngeal swab, Stool, FFPE tissue	<ul style="list-style-type: none"> <li>• 6-strip sample / elution tubes and cap</li> </ul> 
LabTurbo cirDNA kit (480 preps)	Serum; Plasma : Circulating Nucleic Acids	
LabTurbo RNA kit (480 preps)	Buffy coat, Cells, Animal tissue, Plant tissue	<ul style="list-style-type: none"> <li>• Lysis buffer, elution buffer, wash buffer</li> <li>• Proteinase K</li> </ul> 
LabTurbo Forensic DNA kit (480 preps)	Forensic samples : Oral swab, blood swab, cigarette butt, straw, rubber glove, bloodstain, mask, FTA card, chewing gum, hair root, tape	
LabTurbo Stool DNA kit (480 preps)	Stool	

# eCube Extraction Kit

## Product Features

- 가장 보편적 형태의 silica-based spin column kit
- Midi / Maxi-ion-exchange
- 다양한 종류의 제품 중 원하는 용도에 맞게 선별 가능
- 합리적인 가격 / 보장된 성능
- Easy, Efficient, Economic



## Specification

eCube Plasmid DNA Kit			
Specification	Mini	Midi	Maxi
Sample size	1 ~ 5 ml cell culture	Up to 15 ml cell culture	30 ~ 60 ml cell culture
Operation time	< 25 min	< 60 min	< 60 min
Binding capacity	Up to 60 ug/column	Up to 250 ug/column	Up to 450 ug/column
Column applicability	Centrifugation and vaccum		
Size	50 / 200 prep	25 / 50 prep	10 / 20 prep

- Sample scale에 따라 세가지 type 중 선택 가능한 Plasmid extraction kit 간단한 Spin column 방식
- Mini는 25분 이내에 고순도, 고수율의 추출이 가능하며, 60 µg/prep의 binding capacity를 갖는 column 사용
- Midi, Maxi는 한시간 이내에 추출 가능하며, 250 µg/prep (Midi), 450 µg/prep (Maxi)의 binding capacity를 갖는 column 사용

eCube Clean up Kit			
Specification	Gel Purification	PCR Purification	Gel & PCR Purification
Sample size	Up to 200 mg agarose gel	Up to 100 ul PCR product	Up to 300 mg agarose gel, Up to 100 ul PCR product
Binding capacity	20 ug/column		
DNA size	65 bp ~ 10 Kb		
Operation time	≤ 25 min	≤ 15 min	10 ~ 20 min
Recovery	70 ~ 80 %	85 ~ 95 %	Gel : 70 ~ 85 % PCR : 90 ~ 95 %
Elution volume	40 ul		
Size	50 / 200 prep		

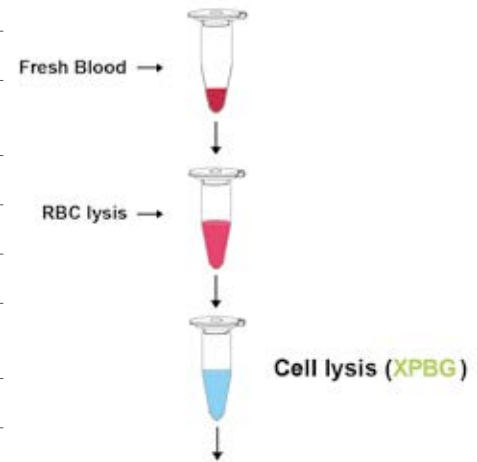
- 다양한 효소 반응물과 Agarose gel로 부터 DNA fragment의 정제 가능
- DNA clean up은 필요에 따라 세가지 type 중 선택 가능
- 간단한 Spin column 방식으로 가성비 높은 제품

# eCube Extraction Kit

eCube Blood, Tissue mini DNA extraction Kit		
Specification	Blood Mini	Tissue Mini
Sample size	Up to 200 ul whole blood, serum, plasma, body fluids Up to $5 \times 10^6$ cultured cells	Upto 25 mg animal tissue 1.2 cm mouse tail Up to $10^7$ cultured cells
Operation time	< 30 min	30 ~ 60 min
Binding capacity	Up to 60 ug/column	
DNA yield	4 ~ 8 ug/200 ul, whole blood	15 ~ 35 ug/prep
Column applicability	Centrifugation	Centrifugation and vaccum
Elution volume	50 ~ 200 ul	50 ul
Size	50 / 200 prep	

- 다양한 sample type에 적용되는 키트 선택으로 최적의 결과 확보
- Plant, Stool, Soil 등의 다양한 샘플에서 genomic DNA를 빠르게 추출
- 간단한 Spin column 방식으로 한시간 이내에 추출 가능
- Gene cloning, PCR, Quantitative real time PCR, southern blotting 등 다양한 application에 적용 가능

eCube Blood Maxi DNA extraction Kit	
Specification	Blood Maxi
Sample size	Up to 10 ml of fresh / frozen blood Up to $1 \times 10^8$ of cultured cells
Operation time	< 60 min
Binding capacity	Up to 500 ug/column
Average DNA yield	350 ug/1 ml whole blood
Column applicability	Centrifugation
Elution volume	0.75 ~ 1.5 ml
Size	10 / 24 prep



- 대용량 혈액 샘플에서 genomic DNA 추출에 적합
- 간단한 Spin column 방식
- Elution volume이 많아서 다양한 application에 적용 가능

# eCube Extraction Kit

eCube Plant, Stool, Soil Genomic mini DNA Kit			
Specification	Plant	Stool	Soil
Sample size	Wet weight ≤ 100 mg Dry weight ≤ 20 mg	50 ~ 100 mg	250 ~ 500 mg
Operation time	< 60 min	< 60 min	< 60 min
Binding capacity	5 ~ 40 ug/column		
Column applicability	Centrifugation		
Elution volume	50 ~ 200 µl		
Size	50 / 200 prep		

- Plant, Stool, Soil 등의 다양한 샘플에서 genomic DNA를 빠르게 추출
- 한시간 이내에 추출 가능
- 간단한 Spin column 방식
- Gene cloning, PCR, Quantitative real time PCR, southern blotting 등 다양한 application에 적용 가능

eCube total RNA mini Kit			
Specification	Blood	Tissue	Plant
Sample size	Up to 300 ul whole blood Up to 5 × 10 <sup>6</sup> animal culture cell	Up to 30 mg animal tissue (mouse / rat)	Up to 100 mg plant tissue 1 × 10 <sup>7</sup> plant cells
Operation time	30 ~ 60 min		
Expected yield	-		5 ~ 30 ug/100 mg young leave
Binding capacity	Up to 100 ug/column		
Column applicability	Centrifugation and vaccum		
Elution volume	40 µl		30 µl
Size	50 / 200 prep		

- 각 sample type에 적합한 Kit 선택으로 RNA를 빠르게 추출 가능
- 간단한 Spin column 방식
- 추출된 RNA는 RT-PCR, quantitative real time RT-PCR, microarray analysis 등 다양한 실험에 적용 가능

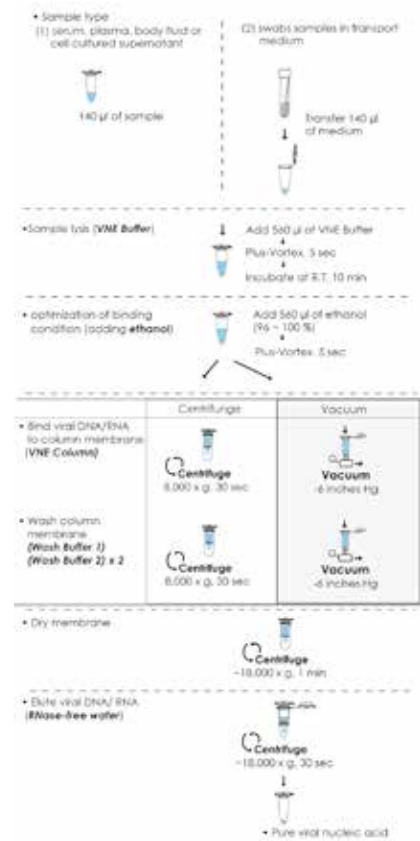


# eCube Extraction Kit

eCube Viral Nucleic acid mini extraction Kit, Spin Column (silica matrix)	
Specification	Viral total nucleic acid
Sample size	150 ul cell-free fluid such as serum, plasma, body fluid and cultured cell
Operation time	20 min
Fragment size	100 bp ~ 30kb
Recovery rate	80 ~ 90 %
Column applicability	Centrifugation
Binding capacity	30 ug/column
Elution volume	40 ~ 50 µl
Size	50 / 200 prep

- Serum, plasma, body fluid and cultured cell과 같은 cell-free fluid로부터 신속하고 간편하게 viral RNA를 추출 가능
- 간단한 Spin column 방식
- 추출된 RNA는 RT-PCR, quantitative real time RT-PCR 등 다양한 실험에 적용 가능

\* 대량 구매시 특별가격 공급 (5kit 이상)



Cat. No	Product	Size
<b>Plasmid Prep kit</b>		
EP11200	eCube Plasmid DNA Mini Kit	200 preps
EP12050	eCube Plasmid DNA Midi Kit	50 preps
EP13020	eCube Plasmid DNA Maxi Kit	20 preps
<b>Clean up kit</b>		
EP21200	eCube Gel Purification Kit	200 preps
EP22200	eCube PCR Purification Kit	200 preps
EP23200	eCube Gel & PCR Purification Kit	200 preps
<b>Plant, Stool, Soil DNA Prep kit</b>		
EP31200	eCube Blood DNA Mini Kit	200 preps
EP31024	eCube Blood DNA Maxi Kit	24 preps
EP32200	eCube Tissue DNA Mini Kit	200 preps
<b>Plant, Stool, Soil DNA Prep kit</b>		
EP33200	eCube Plant DNA Mini Kit	200 preps
EP34200	eCube Stool DNA Mini Kit	200 prep
EP35200	eCube Soil DNA Mini Kit	200 prep
<b>RNA Kit</b>		
EP51200	eCube Blood RNA Mini Kit	200 preps
EP52200	eCube Tissue RNA Mini Kit	200 preps
EP53200	eCube Plant RNA Mini Kit	200 preps
EP55100	eCube miRNA Isolation Kit	100 preps
EP56200	eCube Tri RNA Clean-up Kit	200 preps
EP57100	E-zol RNA Reagent	Volume : 100 ml
EP58100	E-RNA Stabilization Solution	Volume : 100 ml
<b>Viral Kit</b>		
EP61200	eCube Viral Nucleic Acid Mini Kit	200 preps

# 자동 핵산 추출 시스템: iCATCHER 12 Noble Extraction Solution for Solid & Liquid Biopsy



## Product Features

- High Concentration
  - 4 ml sample in, 30 µl elution
- High Yield : Two Silica Membrane Column
- High Recovery Rate
  - Fishing net 방식으로 추출 효율증대
- High Purity
  - 샤워 방법으로 모든 inhibitor 쉽게 제거
- One Sample One Line
  - 교차 오염 가능성 제거

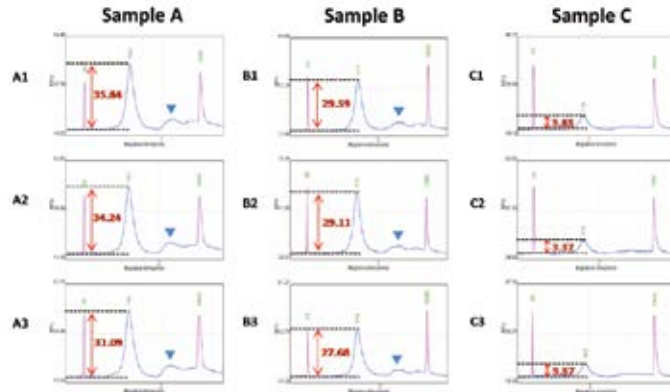


## Performance

- Sample : 4 ml Plasma
- Extraction Kit : iCatcher Circulation cfDNA 4000
- Qualitative Method : Qsep1 Bio-Fragment Analyzer

Quantitative Result (Measure by Qubit)

Name	Conc. (ng/µl)	A.V.G. (ng/µl)	Yield (ng)	A.V.G. (ng)
Sample A1	2.88	2.67	92.16	87.03
Sample A2	2.74		84.94	
Sample A3	2.40		84.00	
Sample B1	1.06	1.04	42.40	46.22
Sample B2	1.08		50.76	
Sample B3	0.97		45.50	
Sample C1	0.34	0.36	16.86	16.51
Sample C2	0.35		15.14	
Sample C3	0.38		16.25	



## Specifications

Throughput	1-12 sample
Sample Input Vol.	250-4,000 µl
Elution Vol.	30-200 µl
Principle	Silica-Membrane Column
User Interface	7 inch WWGA TFT LCD, Touch Screen
Dimension	71×72×73 cm
Weight	100 kg
Voltage	100-240 V
Working temp.	18-40°C







## Related Products

제품	제품명	사이즈
<b>CNA(Circulating Nucleic Acid)</b>		
AC10100-36	iCatcher Circulating cfDNA 1000 Kit - Up to 1ml serum, plasma, urine, CSF or cell	36
AC10400-36	iCatcher Circulating cfDNA 4000 Kit - Up to 4ml serum, plasma, urine, CS F or cell-free body fluid samples	36
AC20100-36	iCatcher Circulating cfRNA 4000 Kit - Up to 4ml serum, plasma, urine, CSF or cell-free body fluid samples	36
AT21100-36	iCatcher FFPE Tissue DNA/RNA Kit	36
<b>DNA</b>		
AD10025-36	iCatcher DNA 250 Kit ( Up to 250 Ql whole blood sample)	36
AD10100-36	iCatcher DNA 1000 Kit ( Up to 1000 Ql whole blood sample)	36
AD10400-36	iCatcher DNA 4000 Kit ( Up to 4000 Ql whole blood sample)	36
AD20100-36	iCatcher Tissue DNA 1000 Kit (Cell or up to 100 mg different animal tissue samples )	36
AD21100-36	iCatcher FFPE Tissue DNA Kit	36
AD22025-3	iCatcher Stool DNA 250 Kit ( (bacterial) gDNA in stool from up to 100 mg (250 µl) stool )	36
AD22400-36	iCatcher Stool DNA 4000 Kit ( (bacterial) gDNA in stool from up to 500mg (4000 µl) stool )	36
<b>TNA (Total Nucleic Acid)</b>		
AT10025-36	iCatcher VB DNA/RNA 250 Kit - To purify viral DNA/RNA and bacterial DNA/RNA together from 250 µl serum, plasma, urine sample, cell-free body fluids or cell-culture supernatants.	36
AT10100-36	iCatcher VB DNA/RNA 1000 Kit - To purify viral DNA/RNA and bacterial DNA/RNA together from 1 ml serum, plasma, urine sample, cell-free body fluids or cell-culture supernatants	36
AT21100-36	iCatcher FFPE Tissue DNA/RNA Kit	36

# 자동 모세관 전기영동장치 Qsep Bio-Fragment Analyzer

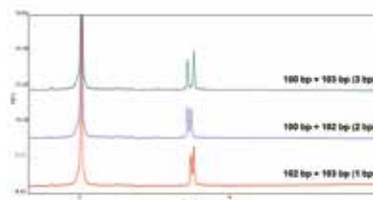
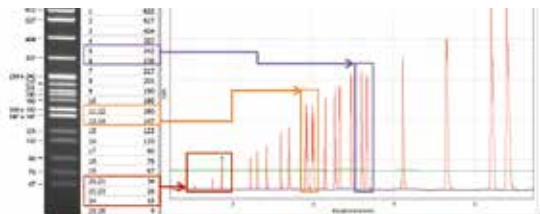
## Product Features

- user friendly : sample loading-gel running-image 분석 자동화
- High sample Flexibility : 1-96 sample 까지 다양하게 사용
- Cost effective : 1개의 카트리지로 200 sample 사용
- High Resolution : 1-4 bp 구분
- High Sensitivity : 5 pg/L (샘플농도) 검출

						
<b>Model</b>	Qsep1-Lite	Qsep1	Qsep1-Plus	Qsep100	Qsep100 Advance	Qsep400
<b>Separation Voltage</b>	1-8 kV			1-15 kV		
<b>Connection</b>	Cable	Wi-Fi / Ethernet Cable		USB		
<b>Dimension (cm)</b>	24 X 21 X 30			38 X 30 X 40		54 x 40 x 36
<b>Weight</b>	5.5 kg			15 kg		26 kg
<b>System</b>	1 channel Portable system			1 channel Standard		4 Channel system
<b>Sample Capacity</b>	1-8 samples		1-16 samples	1-96 samples		4-96 samples
<b>Rapid Analysis</b>	2-7 min/sample					2-7 min/ 4-sample

## Q-Analyzer Software

- 실시간으로 분석 결과 확인
- Fragment별 Size, 농도 자동 계산
- 데이터 가공이 쉽고 다양한 포맷으로 데이터 내보내기 가능
- Smear Analysis 및 RNA Quality Number(RQN), DQN 값 자동 계산
- 설정 구간 별 농도 및 퍼센티지 계산 가능

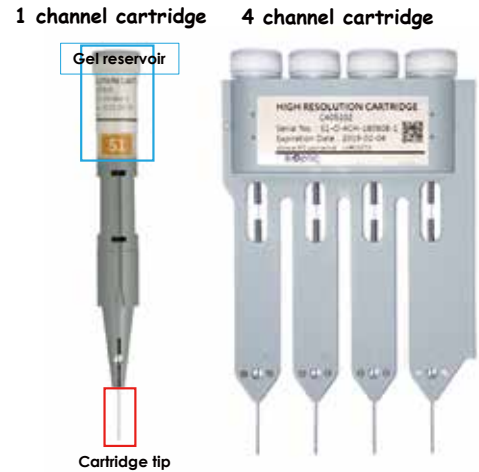


# Qsep Fragment Analyzer Cartridges

- Precast gel이 들어 있는 11종의 카트리지로 다양한 Application 지원
- RFID Tag 부착으로 잔여 사용 횟수 및 유효기간 자동 계산
- 상온에서 보관 가능



- A: Cartridge
- B: Alignment Marker
- C: Buffer Tray(Qsep100)
- D: Separation Buffer
- E: Dilution Buffer
- F: Mineral Oil
- G: 0.2 ml PCR tube
- H: Dropper

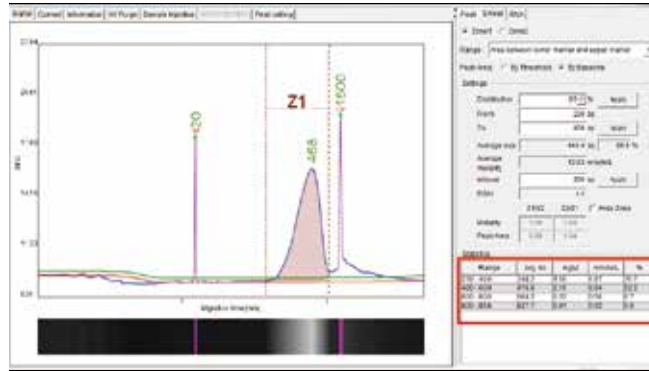


Qsep1, Qsep100, Qsep100 Advance, Qsep400 용 카트리지

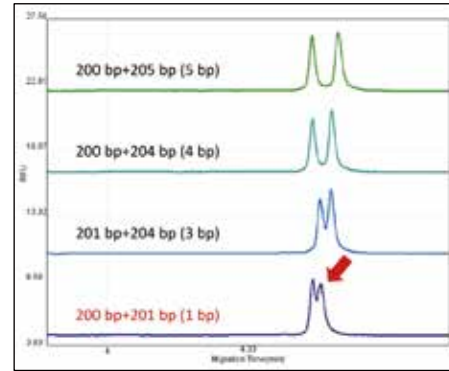
Application	DNA Cartridge Kit						RNA Cartridge Kit		Protein Cartridge
Cartridge Name	Standard (S2)	High resolution (S1)	Fast cartridge (F3)	High sensitivity (N1)	Kilobase (S3)	HS Kilobase (N3)	RNA cartridge (R1)	HS RNA (NR1)	Protein cartridge (P2)
Size Range	10-5,000 bp				10-60,000 bp		10-6,000 nt		11-155 kDa
Best Resolution	4-10 bp	1-4 bp	10 bp	1-4 bp	4-10 bp		N/A		
Analysis Time	2-3 min	3-5 min	1-2 min	2-3 min	9-21 min	9-25 min	5-8 min		6-10 min
L.O.D	0.1 ng/uL			5 pg/uL	0.1 ng/uL	20 pg/uL	5 ng/uL		0.5 pg/uL
Sample Number	200 runs		300 runs	100 runs	200 runs	100 runs	100 runs		
Shelf Life	6 month		4 month		6 month	4 month	4 month		

# Application Data

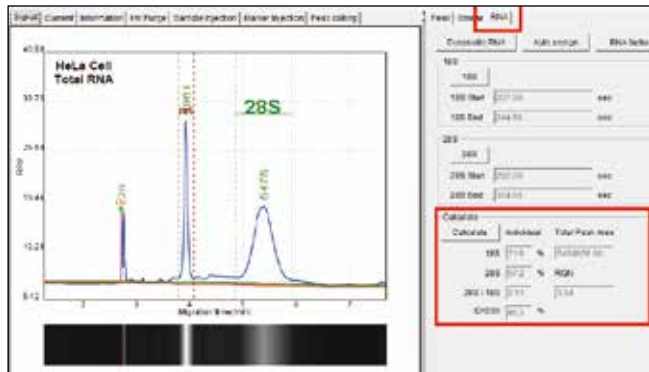
NGS QC: Fragmented DNA, Library



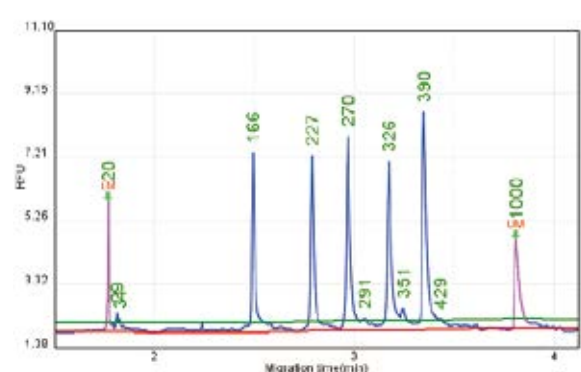
High Resolution



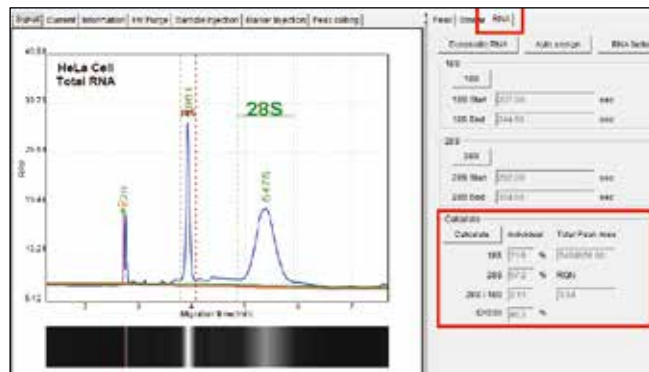
Genomic DNA QC



Multiplex PCR Product



Total RNA QC





# DeNovix Spectrophotometers & Fluorometers



## Product Features

- 하나의 장비로 spectrophotometer 와 fluorometer 가능
- 190~840 nm full wavelength 2 초 이내 측정 가능
- Pathlength 0.5 mm로 정확성 및 뛰어난 재현성
- Multi-channel fluorescence (4 channel)
- Linux OS
- Touch screen 장착으로 PC설치 불필요
- 다양한 export 형식 (network, WiFi, USB 이용 가능)
- Smart pathlength 기술로 recalibration 불필요
- 무상 서비스 2년



## Specification

- Microvolume mode

Minimum Sample Size	0.5 µl
Pathlength	0.5 mm (auto ranging to 0.02 mm)
Light Source	Pulsed Xenon flash lamp
Detector Type	2048 element CCD
Wavelength Range	190-840 nm
Wavelength Accuracy	0.5 nm
Spectral Resolution	1.5 nm (FWHM at Hg 253.7 nm)
Absorbance Precision	0.015 AU (1 cm), or 1%
Absorbance Accuracy	1.5% at 0.75 AU at 260 nm
Detection limit	0.04 mg/ml BSA; 0.75 ng/ml dsDNA

- Cuvette mode

Beam height	8.5 mm
Heating	37-45 °C ± 0.5 °C
Pathlength	10, 5, 2, 1, 0.5, 0.2, 0.125 mm
Absorbance Range	0.0008-1.5 AU (1 cm)
Detection limit	0.002 mg/ml BSA 0.04 ng/µl dsDNA (1 cm)
Maximum Concentration	75 ng/µl dsDNA

- Fluorometer mode

Light Sources	Blue LED (~470 nm), Green LED (~525 nm), Red LED (~635 nm), UV LED (~375 nm)
Tube type	0.5 ml Real Time thin-wall PCR tube (polypropylene)

## Related Product

Model	Product
DS-11 FX +	Microvolume Spectrophotometer / Fluorometer with Cuvette mode
DS-11 FX	Microvolume Spectrophotometer / Fluorometer
DS-11+	Microvolume Spectrophotometer with Cuvette mode
DS-11	Microvolume Spectrophotometer
DS-C	Cuvette Spectrophotometer
QFX	Fluorometer
FX Module	Fluorometer accessory for DS-11 / DS-11+

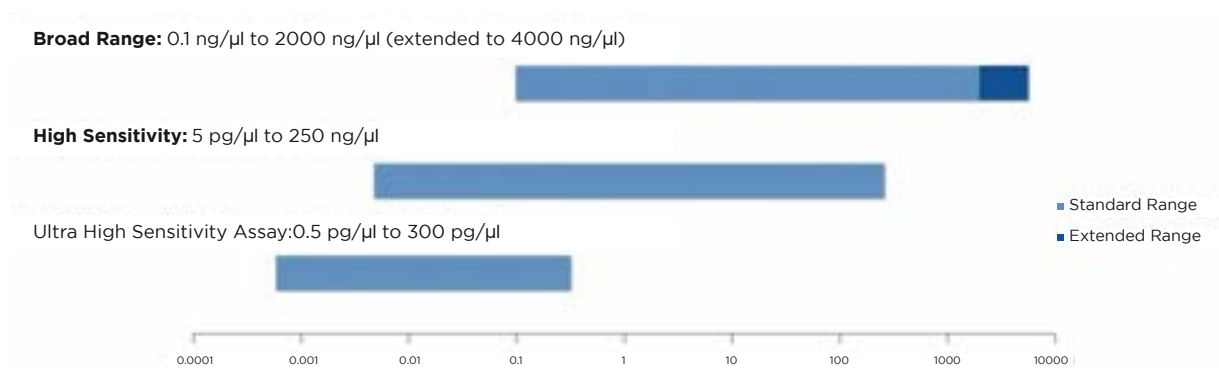
Model			
DS-11 FX +	✓	✓	✓
DS-11 FX	✓		✓
DS-11 +	✓	✓	
DS-11	✓		
QFX Fluorometer			✓

# Fluorescence Quantification Assays

## Product Features

- Widest Dynamic Range
- dsDNA 0.5 pg/μl ~ 4000 ng/μl
- RNA 250 pg/μl ~ 1000 ng/μl
- dsDNA 20X Greater Sensitivity than Qubit®
- One RNA kit replaces full Qubit® Range
- Integrated into EasyApps® Software
- Simple Mix-and-Measure Assay

## DeNovix dsDNA Assays Range



## DeNovix RNA Assays Range



## Qubit에서도 사용 가능한 DeNovix Fluorescence Quantification Assays

Model	Broad Range Assay	High Sensitivity Assay	Ultra High Sensitivity Assay
DS-11 FX	0.1 ng/μl to 2000 ng/μl (extended to 4000 ng/μl)	5 pg/μl to 250 ng/μl	0.5 pg/μl to 300 pg/μl
QFX	0.1 ng/μl to 2000 ng/μl (extended to 4000 ng/μl)	5 pg/μl to 250 ng/μl	0.5 pg/μl to 300 pg/μl
Qubit 2.0	NA	5 pg/μl to 250 ng/μl	0.5 pg/μl to 300 pg/μl
Qubit 3.0	NA	5 pg/μl to 250 ng/μl	0.5 pg/μl to 300 pg/μl

# An Intelligent Liquid Handling System : Myra

Myra는 최첨단 알고리즘과 내장 카메라로 쉬운 사용과 최고의 정밀도를 자랑하는 Liquid handler 입니다.

Myra의 속도, 정확성 및 직관적인 소프트웨어로 당신의 시간을 절약하세요.



## Product Features

### Simplicity

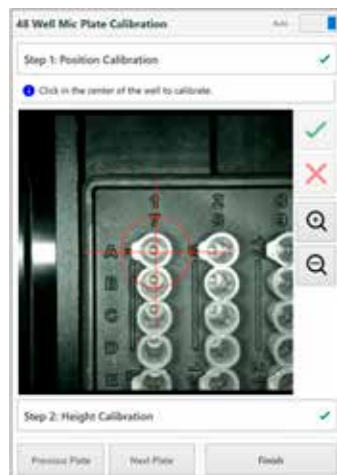
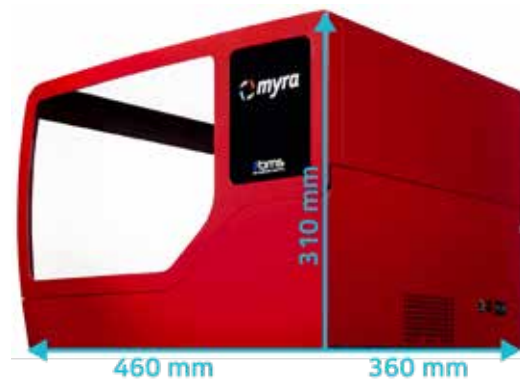
- 48 - 96 - 384 plate / strip 모든 제품 완벽 지원
- One click calibration
- Easy to Use Software

### Size

- 타사 제품대비 절반 크기
- 9 kg의 가볍지만 clean한 환경 제공
- UV LED light 및 HEPA filter 시스템

### Performance

- 정밀한 경로제어 : 정밀한 위치 보정 및 error 감지
- Pipette의 뛰어난 균일성 및 정확도
- Calibration 된 pipette head의 쉬운 교체
- Integrated Vision System  
: Robot arm에 내장된 CCD camera로 쉬운 calibration



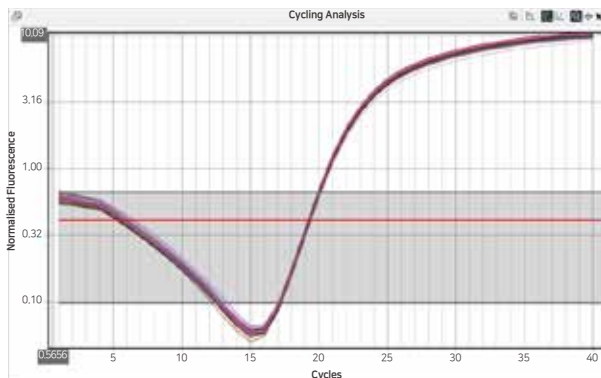
# An Intelligent Liquid Handling System : Myra

## Specification

Dimensions (W x L x H, mm)	360 x 460 x 310
Position control	Closed loop, 100 Qm resolution
Level detection	Pressure sensing
Dispense modes	Single
Volume range	1-50 $\mu$ l
Tips per rack	384
Precision	1 $\mu$ l : 5% CV
	2 $\mu$ l : 2.5% CV
	5-50 $\mu$ l : 1% CV
Accuracy	1 $\mu$ l : 10%
	2 $\mu$ l : 5%
	5-50 $\mu$ l : 1%
UV decontamination	70 mW 280 nm UV LED
HEPA air filtration	99.98% at 0.3 $\mu$ m

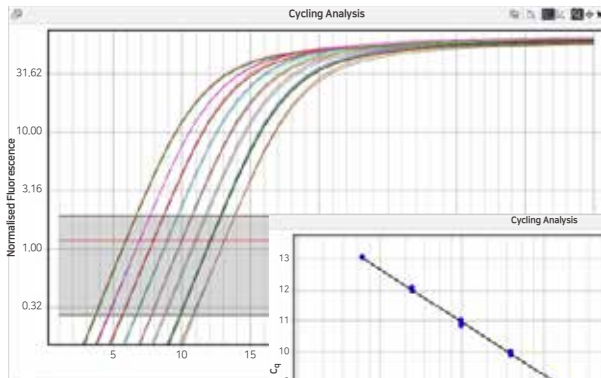


## Performance



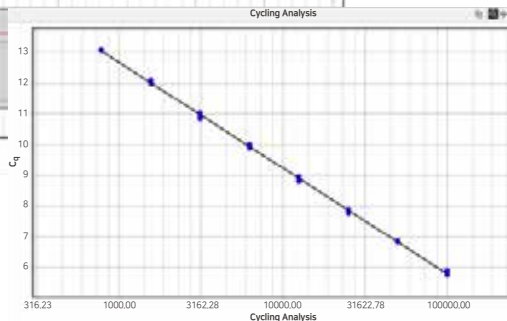
### Precision; Means sample repeatability

- KRAS human genomic DNA target.
- 10,000 copies per reaction.
- 48 replicates setup using 1  $\mu$ L of template per 25  $\mu$ L reaction.
- $C_q \bar{x} = 19.23 \mid \sigma = 0.05 \mid \Delta_{\max-\min} = 0.25 \mid CV = 0.3\%$



### Accuracy and precision maintained

- Capricious gene
- 8 point, 2 fold dilution series of the template run in replicates of 4.
- $E = 96\%; R^2 = 0.9993$ .



# qPCR Cycler : MIC Magnetic Induction Cycler

MIC는 세계 최초 Magnetic Induction 방식의 Real-time PCR 입니다. 빠르고 정확한 qPCR 결과를 보장합니다. 2kg의 작은 큐브 안에 담겨진 강력한 기술을 경험해 보세요.



## Product Features



- Magnetic Induction Technology를 이용한 열효율 극대화
- Channel 별 독립된 high intensity LED 및 photodetector
- 고정된 optic module로 calibration 및 align 불필요
- Rotor 방식의 sample 회전으로 acquisition time 1초 소요
- 예열 시간이 필요없어 낭비하는 시간 없음



- 회전형의 알루미늄 로터로 정적 / 동적 온도균일성 제공
- 온도 정확성 accuracy of 3 0.25 °C
- Well 간 온도 균일성 uniformity  
0.05 °C maximum (MIC-4+HRM)  
1 °C maximum (MIC-2 and MIC-4)
- HRM을 이용한 Class IV SNP genotyping을 쉽게 분류



- Bluetooth® 또는 USB 다중연결 가능 (최대 10대)
- 48 - 96 - 192 - 480 까지 확장성 용이
- 개별 데이터의 통합 분석 가능 (최대 480 samples)
- 오픈형 소프트웨어 (Freeware)



- 손안에 들어오는 작은 qPCR machine
- 가로 x 세로 x 높이 / 무게 : 15 cm x 15 cm x 13 cm / 2 kg
- 0.1 ml qPCR 튜브를 이용하여 total volume 5-30 µl 가능
- 4-strip tube의 개별 rack 포장으로 multi pipette 분주가능



## 체외진단의료기기 : Mic IVD

세계 최초의 Magnetic Induction Cycler은 CE-IVDR, KFDA 2등급 승인을 받은 등록된 의료 기기입니다. Mic IVD는 ISO 13485:2016 품질 관리 시스템에 따라 제조되었습니다.



## Specification

Electrical	AC Input	100~240 VAC, 50 / 60 Hz		
Thermal Performance	Temperature Accuracy	3 0.25 °C		
	Temperature Uniformity	3 0.05 °C (MIC-4+HRM) 3 0.1 °C (MIC-2 and MIC-4)		
	Ramp Rates	Heating: 5 °C/sec (sample) Cooling: 4 °C/sec (sample)		
Optical	Detectors	High sensitivity photodiode per channel		
	Excitation Sources	High power Light Emitting Diode for each channel		
	Channels		MIC-2	MIC-4 & MIC-4+HRM
		Green		Ex. 465 nm Em. 510 nm
		Yellow		Ex. 540 nm Em. 570 nm
Orange		-	Ex 585 nm Em 618 nm	
Red	-	Ex 635 nm Em 675 nm		
Reaction Vessels	Acquisition Time	1 s		
	Samples per Instrument	48		
	Reaction Volume Range	5~30 µl		



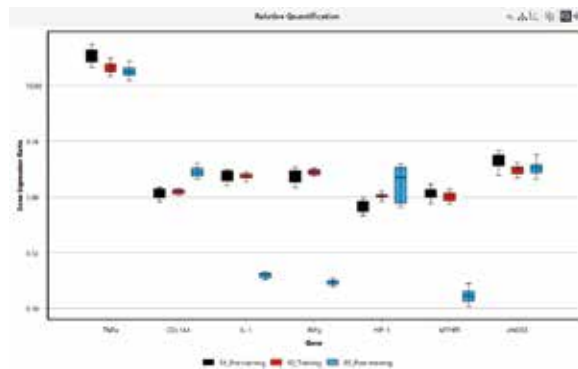
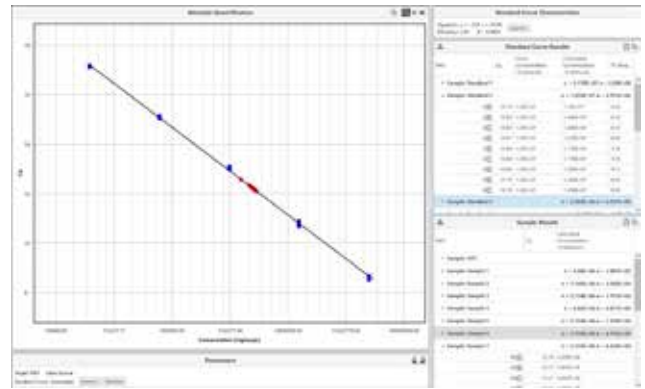
# qPCR Cycler : MIC Magnetic Induction Cycler

## Application

### Absolute Quantification

Standard curve를 사용하면, 유전자의 절대량을 측정할 수 있습니다. 예제의 2-fold dilution, 5 point는 98%의 효율을 보여주었습니다.

Unknown sample의 예상값과 계산값 사이는 5% 이내의 정확성을 보여주었습니다.



### Relative Quantification

RQ 소프트웨어는 최신 수학적 모델과 근거를 갖춘 통계 분석을 사용하여, 여러 그룹에서 서로 다른 타겟의 gene expression level을 비교할 수 있습니다.

필요한 모든 계산 및 통계는 소프트웨어 내에서 수행됩니다. 데이터는 숫자와 그래픽으로 확인할 수 있습니다.

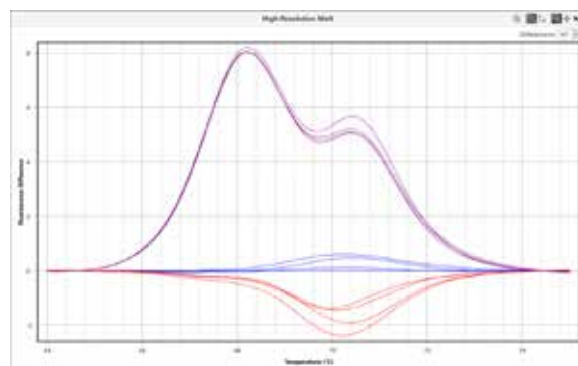
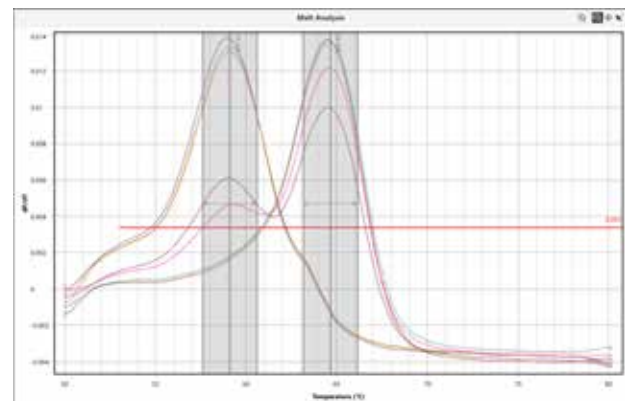
Mic의 탁월한 온도 균일성으로 0.2 fold의 작은 샘플 간의 차이를 쉽게 감지할 수 있습니다.

### Melt / Allelic Discrimination

FRET hybridization probe, beacon, Plexor® 등 다양한 chemistries와 분리된 melt curves를 사용하여 genotype을 분석할 수 있습니다.

Melt peaks는 반전시킬 수 있습니다.

Hybridization probe과 Allelic Discrimination을 이용하여 genotypes를 결정할 수도 있습니다.



### High Resolution Melting

HRM(옵션) 소프트웨어는 까다로운 Class IV SNP를 포함한 mutation을 구분할 수 있습니다.

HRM is the perfect tool for applications including determining allele prevalence, screening for loss of heterozygosity, DNA fingerprinting, DNA methylation, species identification and calculating the ratio of somatic acquired mutations.

- Class IV SNP (A to T)
- Temperature difference between allelec < 0.10 °C



# Block Cycling System : Super Cycler Trinity



## Product Features

- 96 wells PCR 장비
- 3개의 독립적 blocks(TripleZone)으로 high performance 구현
- 균일성 및 재현성이 높은 PCR
- 최대 20 °C의 온도 차를 설정할 수 있는 Gradient 기능
- Touch down/up PCR, Long PCR 등 다양한 PCR 기능
- 사용의 편리성
  - Wizard 모드로 간단하게 PCR program 입력
  - USB stick으로 Program 이동 가능
  - 7인치 Touch color screen 지원
  - Quick Start 기능 지원



## Specification

Temperature Range	4 °C~99 °C
Temperature Accuracy	30.25 °C of set temperature, 30 seconds after target
Temperature Uniformity	3 0.3 °C, 30 seconds after target (range 40~90 °C)
Temperature Resolution	0.1 °C increments
Heating / Cooling Rate	3°C/sec maximum (block)
Well Configuration	0.2 ml tubes with flat or domed caps
Thermal Gradient	Programmable 0~20 °C across block width (12 wells)
Reaction Volume	5 ~ 60 µl
Heated Lid Temperature	Controllable 60 ~ 115 °C
Dimensions (W x D x H, mm)	180 x 285 x 190
Weight	5.5 kg

## Related Products

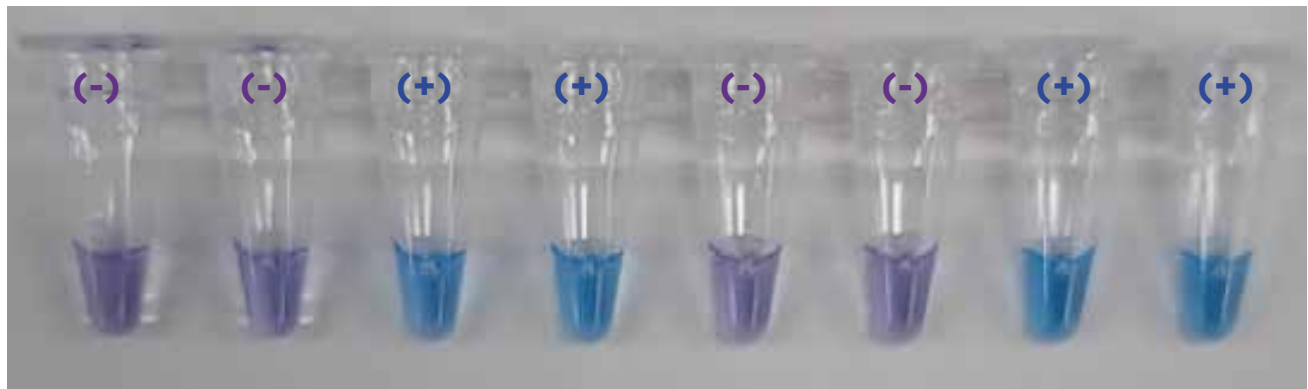
제품번호	제품명	사이즈
M0492	Q5 High-Fidelity 2X Master Mix	100 / 500 rxns
M0491	Q5 <sup>®</sup> High-Fidelity DNA Polymerase	100 / 500 rxns
M0494	Q5 <sup>®</sup> Hot Start High-Fidelity 2X Master Mix	100 / 500 rxns
M0493	Q5 <sup>®</sup> Hot Start High-Fidelity DNA Polymerase	100 / 500 rxns
M0480	OneTaq DNA Polymerase (5,000 units/ml)	200 / 1000 / 5,000 units
M0482	OneTaq <sup>®</sup> 2X Master Mix with Standard Buffer	100 / 500 rxns
M0484	OneTaq <sup>®</sup> Hot Start 2X Master Mix with Standard Buffer	100 / 500 rxns
M0486	OneTaq <sup>®</sup> Quick-Load 2X Master Mix with Standard Buffer	100 / 500 rxns
M0488	OneTaq <sup>®</sup> Hot Start Quick-Load 2X Master Mix with Standard Buffer	100 / 500 rxns
M0509	OneTaq <sup>®</sup> Quick-Load DNA Polymerase (5,000 units/ml)	100 / 500 / 2500 units
E5310S	OneTaq <sup>®</sup> RT-PCR Kit	30 rxns
E5315S	OneTaq <sup>®</sup> One-Step RT-PCR Kit	30 rxns
E6560	ProtoScript <sup>®</sup> II First Strand cDNA Synthesis Kit	30 / 150 rxns
M0368	ProtoScript II Reverse Transcriptase (200,000 units/ml)	4000 / 10000 / 40,000 units
M0253	M-MuLV Reverse Transcriptase (200,000 units/ml)	10000 / 50,000 units
E1700	WarmStart <sup>®</sup> LAMP Kit (DNA & RNA)	100 / 500 rxns
M1800	WarmStart <sup>®</sup> Colorimetric LAMP 2X Master Mix (DNA & RNA)	100 / 500 rxns
M0380	WarmStart <sup>®</sup> RTx Reverse Transcriptase	50 / 250 rxns

# Colorimetric RapidLAMP 2X Master Mix with UDG

Simple, one-step solution for Loop-Mediated Isothermal Amplification (LAMP) of DNA or RNA (RT-LAMP) targets

## Product Features

- 증폭을 빠르고 명확하게 시각적으로 감지(purple ⇒ blue)
- Master mix에 UDG와 dUTP가 포함되어 교차 오염 (carryover contamination) 감소
- 높은 농도의 Inhibitors에서도 강력한 성능, reverse transcriptase 활성 증대
- Crude 샘플 뿐만 아니라 purified DNA or RNA 샘플에도 높은 sensitivity
- Hydroxy naphthol blue (HNB; metal indicator)를 이용한 end-point 비색 검출
- **PKT RGB Reader device** : 빠르고, 간단하며 정확한 검출 가능
- Heat source외에 추가장비 불필요, **PKT Mini-Dry Bath** 권장.



Negative reactions are indicated in purple and positive reactions are indicated by change to blue.



PKT Mini-Dry Bath



PKT RGB Reader

## Ordering Information

Cat. No	Product name	Conc.	Size
RL1000-01	Colorimetric RapidLAMP 2X Master Mix with UDG	2X	100 rxns
RL1000-02			200 rxns
RL1000-05			500 rxns

# Custom qPCR Probes & Custom Oligo Synthesis : LGC Biosearchtech

LGC Biosearchtech은 BHQ quencher 및 some fluorophores의 고유 개발사로서 높은 품질의 oligos 합성 서비스를 공급하고 있습니다.

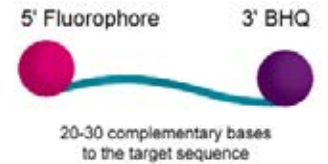


## Custom qPCR Probes

대부분의 Probe type은 어느 정도의 결과를 제공하지만 실험 목표와 상업적 비전에 따라 이상적인 Probe Technology를 선택하여 최적화해야 합니다. 검사 개발 초기에 다양한 Probe type을 시도하여 요구 사항에 맞는 옵션을 결정할 수 있도록 LGC Biosearch Technologies가 도와 드리겠습니다.

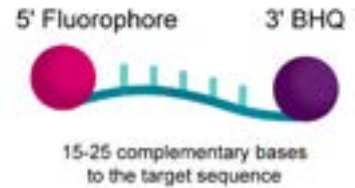
### BHQ™ Probes

- Dual-Labeled Probe for Standard qPCR Assays
- Dual Purification이 기본 제공되어 High-purity의 Probe 합성이 가능. (Reverse Phase HPLC + Anion Exchange HPLC)
- Probe length : 20-30 bp



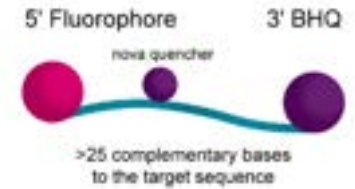
### BHQplus™ Probes

- qPCR Assays 및 SNP Genotyping에 최적화
- Modified C 와 T nucleotides를 통해 Tm을 조절하여 길이가 짧은 서열에 최적화된 제품
- Probe length : 15-25 bases



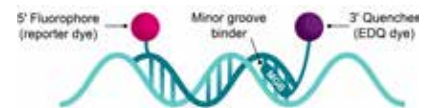
### BHQnova™ Probes

- qPCR Assays, Gene Expression, CNV Assays
- Double-quenched qPCR Probes : Internal quencher (novaquencher)가 5' reporter dye와 3' quencher 사이에 삽입되어 quenching 효과를 극대화하고 reporter signal을 향상시킨 제품
- 길이가 긴 서열에 최적화된 제품
- Probe length : >25 bases



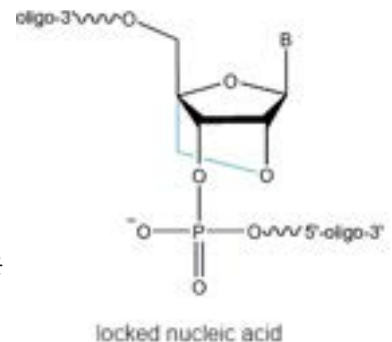
### MGB Probes

- MGB의 결합에 의해 target-probe의 안정화가 높아지며 Tm을 크게 향상시켜 SNP/mismatch discrimination을 개선
- 3' 말단의 MGB는 melting temperature(Tm)을 높여주는 역할을 하여 짧은 서열의 Probe 합성이 가능.
- MGB probes의 향상된 quenching 효율로 background를 낮추고 reporter signal을 향상 시킨 제품
- ISO 9001 (RUO grade) / ISO 13485 (cGMP grade, diagnostic grade) 제조 옵션 선택 가능



### Locked nucleic acid (LNA) probes

- SNP genotyping, gene expression assays에서 정밀한 Tm조절이 가능
- locked nucleic acid (LNA) oligonucleotides는 ribose의 2' 산소 원자와 4' 탄소 원자를 methylene bridge로 연결하여 C3'-endo형태로 "locked"된 modified RNA 염기
- 각 LNA insertion은 probe-target duplex의 Tm을 2-8°C 증가시켜 길이가 짧은 서열의 design이 가능하고 서열 specificity와 assay sensitivity를 개선시킨 제품
- 높은 quenching 효율로 background를 낮추고 reporter signal을 향상 시킨 제품
- A-T rich sequences에 Targeting

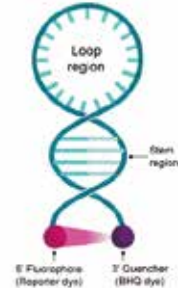


# Custom qPCR Probes & Custom Oligo Synthesis : LGC Biosearchtech



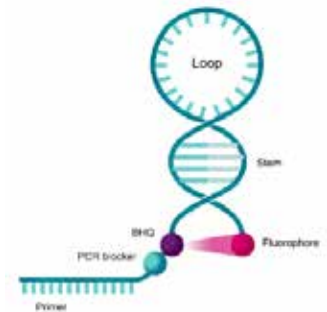
## Molecular Beacon probes

- Molecular Beacon probes는 Probe의 양쪽 끝에 상보적인 서열 (5-7 nt)이 결합하여 stem-loop (hairpin) 구조를 형성하며, Reporter 와 quencher가 근접하게 되어 quenching 효율이 높은 Dual-Labeled Probe 제품.
- Stem-loop 형태의 높은 특이성으로 인하여 SNP/mismatch discrimination에 이상적
- 기본 Dual HPLC 제공



## Scorpions™ Primers

- Scorpions™ Primers는 하나의 분자에 Primer와 Probe가 결합하여 3' 에는 Primer, 5' 에는 stem-loop구조가 포함되어 있는 제품.
- unimolecular 메커니즘을 통해 PCR cycling 중에 enzymatic cleavage가 필요하지 않아 신속한 real-time PCR, endpoint PCR, SNP detection, gene quantification이 가능.
- Stem-loop 형태의 높은 특이성으로 인하여 SNP/mismatch discrimination에 이상적



## Custom Oligos

LGC Biosearch Technologies에서는 독점으로 보유 중인 올리고 합성 기기를 사용하여 광범위한 Nucleic Acid 유도체와 특수 올리고 구성 blocks으로 높은 품질의 Unmodified oligos, Modified oligos, DNA/RNA hybrid 서열 등 모든 응용 분야에 맞는 맞춤형 연구용 올리고를 제공하고 있습니다.

- ISO 9001:2015 인증 품질 관리 시스템
- 1000개 이상의 수식 합성
- 고품질의 complex oligos 제공 능력 입증
- Dual HPLC 부터 salt-free 까지 다양한 정제 방식을 제공하여 적합한 옵션의 선택이 가능

## Standard synthesis scales

- 50 nmol (small)
- 200 nmol (medium)
- 1 umol (large)

## Oligo purification

LGC Biosearch Technologies에서는 Dual HPLC 부터 salt-free 까지 다양한 정제 방식을 제공하여 적합한 옵션의 선택이 가능합니다.

## Dual-labeled Probes

Oligonucleotide type	Purification	Typical purity
Small Scale Probes/BHQ Probe	Dual-HPLC: AX+RP	85%
Small Scale Probes/ValuProbe	RP HPLC	80%
Large Scale Probes	Dual-HPLC: AX+RP	90%
CAL Fluor/BHQ Probes	Dual-HPLC: AX+RP	80%
Quasar 670/BHQ Probes	Dual-HPLC: AX+RP	75%
BHQplus Probes	RP HPLC	70%
With Wobble(s)	RP HPLC	70%

## Single-labeled probes

Oligonucleotide type	Purification	Typical purity
5' Labeled Probes	RP HPLC	75%

## Primers

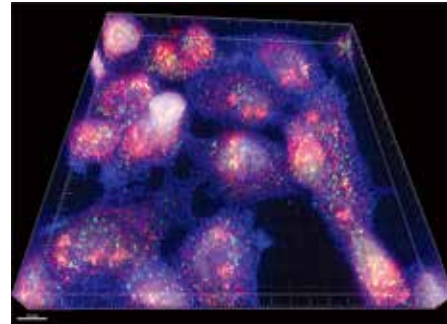
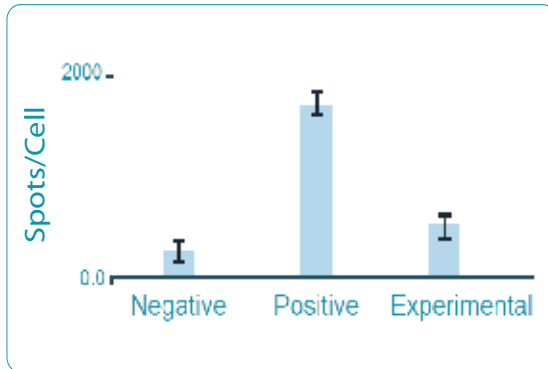
Oligonucleotide type	Purification	Typical purity
Small Scale Primers	RPC	N/A
Large Scale Primers	RPC	70%
AX Purified Primers	AX-HPLC	90%

# Stellaris RNA FISH : LGC BIOSEARCHTECH

## Stellaris™ RNA FISH 는

qPCR, DNA FISH, IHC, IF 및 western blotting과 같은 기존 기술과 접목하여 더 나은 정보를 제공할 수 있습니다.

**BIOSEARCH™**  
**TECHNOLOGIES**  
GENOMIC ANALYSIS BY LGC



ERBB2 (Red), AKT1 (Green), phosphoAkt Protein (Blue) Human HCC1954 breast cancer cells Photo Credit: Sunjong Kwon

## Custom Probe Sets

- 온라인 기반의 Stellaris Probe Designer 를 이용하여 customized
- 5 nmol의 pooled oligos 제공 (200-400회 분량, 최적화에 따라 다름)
- Target 당 최대 48개 형광 probes

## DesignReady Probe Sets

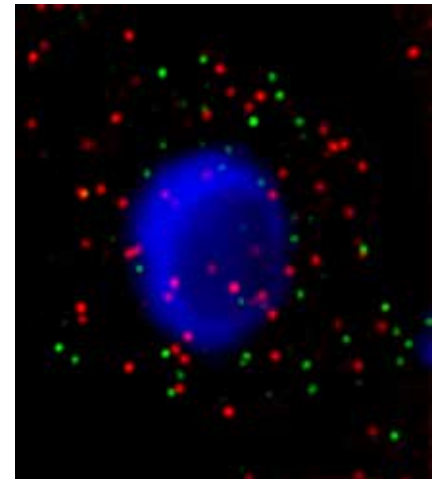
- 연구 분야가 높은 targets를 사전사후 설계 및 검증한 제품
- Human, mouse, rat 부터 가축용, Fruit Fly, Zebrafish 및 미생물까지
- 5 nmol의 pooled oligos 제공

## ShipReady Probe Sets

- Positive control용 probe sets
- Human, Mouse, Nematode, Fruit Fly, Yeast 용
- 1 nmol 의 pooled oligos 제공 (약 40-80회 분량)

## Stellaris Buffer Sets

- Stellaris RNA FISH에 이상적인 buffers 제공
- Background는 줄이고, signal은 높여 high quality 데이터 획득
- Hybridization buffer, Wash buffers



Arabidopsis thaliana root meristem tissue. PP2A mRNA (red), FLC mRNA (green)

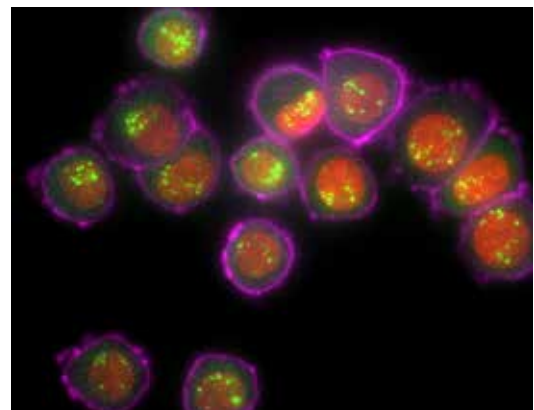


Image of simultaneous Stellaris RNA FISH and immunofluorescence assay. HER2 mRNA molecules (green), protein marker HER2 (pink), DAPI (red) in human SK-BR-3 cells



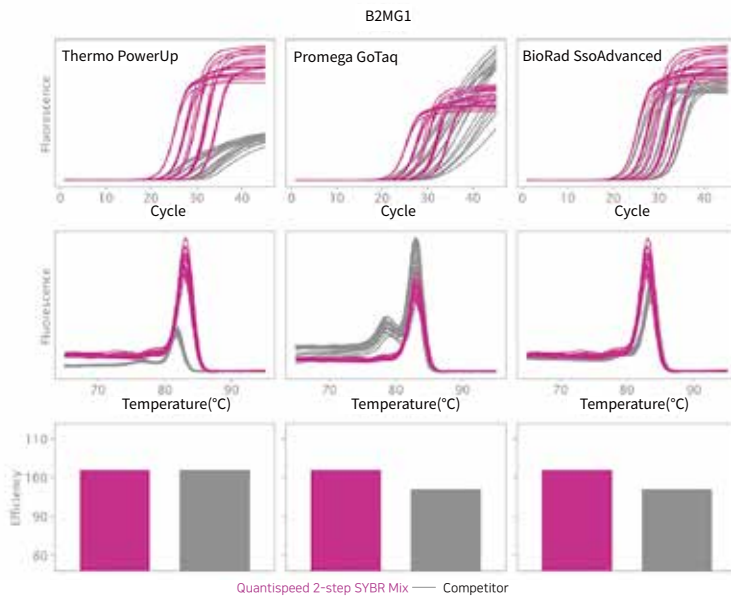
# PCR & qPCR Reagent : PKT & NEB Products

## PKT QuantiSpeed qPCR & RT-qPCR Products

### Product Features

- Rapid extension rate: 초기 Ct 값의 빠른 증가율로 신속한 검출
- Market-leading sensitivity : 최고 수준의 Sensitivity
- Specific amplification : GC-rich sequences 등 복잡한 template의 정확한 증폭
- Compatibility : 모든 standard real-time PCR 기기와 호환

### QuantiSpeed Performance



### Product Information

Cat. No	Product Name	Size
QS105	QuantiSpeed SYBR No-Rox Kit	2 / 5/ 10 mL
QS115	QuantiSpeed SYBR Low-Rox Kit	2 / 5/ 10 mL
QS125	QuantiSpeed SYBR Hi-Rox Kit	2 / 5/ 10 mL
QS775	QuantiSpeed Probe No-Rox Kit	2 / 5/ 10 mL
QS745	QuantiSpeed Probe Low-Rox Kit	2 / 5/ 10 mL
QS735	QuantiSpeed Probe Hi-Rox Kit	2 / 5/ 10 mL
QS815	QuantiSpeed HRM Kit	2 / 5/ 10 mL
QS155	QuantiSpeed SYBR Low-Rox One-Step Kit	1 / 5 mL
QS165	QuantiSpeed SYBR Hi-Rox One-Step Kit	1 / 5 mL
QS785	QuantiSpeed Probe No-Rox One-Step Kit	1 / 5 mL
QS775	QuantiSpeed Probe Low-Rox One-Step Kit	1 / 5 mL
QS765	QuantiSpeed Probe Hi-Rox One-Step Kit	1 / 5 mL

# PCR & qPCR Reagent : NEB Products

## Luna® qPCR & RT-qPCR Products

### Product Features

- qPCR or RT-qPCR 최적화
- Intercalating dye or probe-based detection
- Rapid, sensitive and precise real-time qPCR performance
- Compatible across a wide variety of instrument platform
- Blue visible dye assists in tracking the reagents : 피펫팅 에러 방지

### Luna qPCR & RT-QPCR 제품 선택 가이드

		2 Select detection method	
		Dye-based	Probe-based
1 Select your target	Genomic DNA or cDNA	Luna® Universal qPCR Master Mix (NEB #3003)	Luna Universal Probe qPCR Master Mix (NEB #M3004)*
	Purified RNA one-step RT-qPCR	Luna Universal One-Step RT-qPCR Kit (NEB #E3005)	Luna Universal Probe One-Step RT-qPCR: <ul style="list-style-type: none"> <li>• Kit (NEB #E3006)</li> <li>• Kit (No ROX, NEB #E3007)</li> <li>• 4X Mix with UDG (NEB M3019)</li> <li>• 4X Mix with UDG (No ROX, NEB M3029)</li> </ul> LyoPrime Luna Probe One-Step RT-qPCR Mix with UDG (NEB #L4001)
	Two-step RT-qPCR	LunaScrip RT® SuperMix (NEB #E3010/M3010) + Luna Universal qPCR Master Mix (NEB #M3003)	LunaScript RT SuperMix (NEB #E3010/M3010) + Luna Universal Probe qPCR Master Mix (NEB #M3004)
	RNA from cell lysate	Luna Cell Ready One-Step RT-qPCR Kit (NEB #E3030)	Luna Cell Ready Probe One-Step RT-qPCR Kit (NEB #E3031)

- Cell lysis, RNA release, and genomic DNA removal 과정까지 15분
- 다양한 cell line 및 넓은 범위의 세포 수 (10-100,000 cells)에서 적용
- 샘플 손실의 최소화로 low cell input에 효과적
- 많은 양의 (High-throughput) 샘플 가능, 상온에서 cell lysis

Cat. No	Product Name	Size
E3932S	Luna® Cell Ready Lysis Module	100 rxns
E3030S	Luna® Cell Ready One-Step RT-qPCR Kit	100 rxns
E3031S	Luna® Cell Ready Probe One-Step RT-qPCR Kit	100 rxns

- 1 tube에 cDNA 합성에 필요한 모든 구성성분 random primer, oligo-dT, dNTP, RNase inhibitor, Reverse Transcriptase 등이 포함
- 13분 : first-strand CDNA 합성 시간
- Thermostable Luna Reverse Transcriptase : 성능 향상

Cat. No	Product Name	Size
E3010	LunaScript® RT SuperMix Kit	25/100 rxns
E3025	LunaScript® RT Master Mix Kit (Primer-free)	25/100 rxns

# ENDURO™ Gel Documentation System

## Product Features

- 저렴한 가격의 Gel doc 전용 장비
- 넓은 field of view : 20 cm x 24 cm
- Capture software에서 annotation 지원
- 간편한 설정과 사용 편의성



## Specification

<b>Camera</b>	5 MP (2592 x 1944), scientific grade sensor
<b>Lens</b>	8 mm, F 1.4 hands free lens
<b>Cabinet</b>	Built in UV transilluminator with safety cut-off switch
<b>Dimensions (cm)</b>	34.6 x 31.1 x 68.6
<b>Weight</b>	21.4 kg

Cat.No	Product
GDS-1302	ENDURO™ GDS with a 302nm UV transilluminator
GDS-1365	ENDURO™ GDS with a 365nm UV transilluminator
GDS-12018*	Clear Gel Tray
GDS-12019*	White Light Conversion Tray
GDS-12020	Blue Light Conversion Tray

\* GDST 공용 제품



# CHEMISOLO : AzureBiosystems

## Product Features

- Femtogram 감도로 낮은 발현 단백질 감지
- Pixel 포화를 방지 및 선형 동적 범위 극대화
- Coomassie blue or silver stain 이미지 극대화
- 스마트폰이나 태블릿을 이용한 제어 기능



## Specification

Parameter	chemiSOLO
Detection	6.29 MPx back-illuminated sCMOS camera
Pixel resolution	48.8 Qm
Wide dynamic range	16-bit image output with 3072 x 2048 resolution
Cooling	Multi-stage Peltier cooling, -40 °C below ambient temperature
Field of view (FOV)	10.0 x 15.0cm (4.0 x 5.9in)
Binning	Four modes: 1x1, 2x2, 3x3, and 4x4
Unit dimensions (W x H x D)	29.2 x 22.2 x 43.2cm (11.5" x 8.75" x 17.0")
Weight	9.1kg / 20lbs
Power requirements	100-240VAC, 1A; Single Phase; Consumption: 60W
Connection	License-free capture software controllable through user's computer, tablet, or mobile device
Certifications	CE RED, CB scheme, cTUVus, FCC Compliance Certified



## Product Features

- 캐비닛 타입 젤, 케미 도큐멘테이션 장비
- 사양에 따라 Gel, Chemi, RGB, NIR 가능
- 상위 사양으로 업그레이드 가능
- 캐비닛 장비 중 유일하게 Laser-NIR을 장착
- 다양한 application 가능
- FO.95, Real 9.1 M pixel & 16 bit CCD (< Azure 300~)



## Specification

	200	280	300	400	500	600
<b>Image Resolution</b>	5.4 MP	6.1 MP	9.1 MP			
<b>Cooling</b>	-	-50 °C regulated cooling				
<b>Image Bit Depth</b>	16 bit					
<b>Trans WhiteLight</b>	yes					
<b>UV 302 nm &amp; 365 nm</b>	yes					
<b>EPI Blue</b>	yes					
<b>Visible Fluorescent Westerns</b>	yes					
<b>NIR Westerns PP</b>				yes		yes
<b>Standard Filter</b>	Compatible with : Ethidium Bromide, SYBR <sup>®</sup> Safe, Coomassie Blue, Stain-Free <sup>™</sup> and others					
<b>Filter Wheel</b>	7 position filter slider	3 position filter slider	7 position motorized filter wheel			
<b>Computer</b>	Tablet computer : Option to control system through external PC					
<b>Upgradeability</b>	Yes	no	yes	yes	yes	
<b>Analysis Software</b>	Yes					

## Compatible Dyes

Alexa Fluor <sup>®</sup> 488 546 555 633 647 680	Ethidium Bromide
Chemiluminescence	GelStar <sup>®</sup>
Coomassie Blue	RDye <sup>®</sup> 650 680LT 680RD 700DX 750 800CW 800RS
Coomassie Fluor <sup>™</sup> Orange	Qdot <sup>®</sup> 525 565 585 605 655 705 755
Cy2 Cy3 Cy5	Silver Stain
Deep Purple <sup>™</sup>	SYBR <sup>®</sup> Green Gold Safe
DyLight <sup>®</sup> 488 550 633 650 680 755 800	SYPRO Orange Red Ruby Tangerine
ECL Plex <sup>™</sup>	OTHER DYES ARE ALSO POSSIBLE. COMPATIBLE DYES DEPEND ON YOUR SYSTEM CONFIGURATION

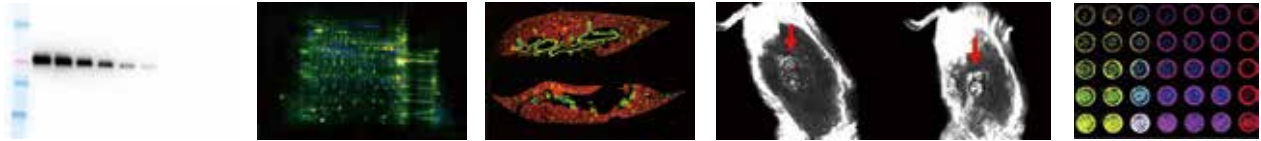
# Sapphire FL Biomolecular Imager

## Product Features

- 다양한 레이저 및 필터 파장 조합
- 유연한 어플리케이션 보장
- 생체 내 이미징
- 넓은 Dynamic range (EDR)
- 형광 검출에 따른 높은 민감도



< 다양한 어플리케이션 예 >



## Specification

Parameter	Azure Sapphire FL
Detection modes	Fluorescence, phosphor imaging, densitometry, and chemiluminescence*
Detectors	Confocal scanning with lasers and PMT or APD detectors
Pixel size	5, 10, 20, 25, 50, 75, 100, 150, 200, 500, 1000 Qm
Supported wavelength range	375 – 900 nm
Excitation range	375 – 850 nm
Emission range	380 – 900 nm
Maximum field of view (FOV):	25 cm x 25 cm
Z-plane focal range	7 mm; minimum delta 0.01mm, from -1 mm below the glass to 6 mm above the glass
Standard optical modules	Solid-state laser diodes emitting at 375, 488, 532, 638, 658, 685, and 784 nm. Phosphor Standard Optical Module available.
Custom Optical Modules	Custom lasers and filters are available upon request to provide exceptional research flexibility.
Wide dynamic range	24-bit
Clearance from platen to lid	4 cm
Animal imaging	Yes, with 5 built-in anesthesia ports compatible with standard small animal anesthesia tubing
Unit dimensions (W x H x D)	63.0 cm x 39.9 cm x 59.3 cm / 24.8" x 15.7" x 23.3"
Weight	43.5 kg / 95.9 lbs
Power requirements	100 – 240 VAC 3 10%, 50/60 Hz
Connection to computer	Fast LAN (Ethernet) cable
Certifications	CE, cTUVus, CB scheme



# Auzre Sapphire™ Eraser



## Product Features

- 25x25cm 까지 가능한 Phosphor screens Eraser
- 다양한 phosphor screens 과 호환 가능
- 사용하기 편한 Drawer & Interface



### Efficient and Effective

- LED arrays at 625 nm are optimized for release of stored energy **within storage phosphor screens.**

## Specifications

Parameter	Auzre Sapphire™ Eraser
Standard system configuration	LED arrays at 625 nm optimized for release of stored energy within storage phosphor screens
Compatible phosphor screens	For unmounted phosphor screens only: BAS-IP MS (multipurpose use): BAS-IP MS 2025) BAS-IP SR (high resolution): BAS-IP SR 0813, BAS-IP SR 12.7 × 12.7, BAS-IP SR 2025 Unmounted GP (multipurpose use): Unmounted GP 20 x 25 cm
Hardware specifications	LED array emitting at 625 nm optimized for release of stored energy within storage phosphor screens
Average light of power	18W/cm <sup>2</sup>
Erasing time	10 - 60 minutes (10, 20, 30, 40, 50, 60)
Tray size	28 x 25 cm
Dimensions (W x H x D)	31 x 8.4 x 43 cm
Weight	7 kg / 15.4 lbs
Certification	CE
Power requirements	100 - 240 VAC 3 10%, 50/60 Hz, 100W

## Related Product

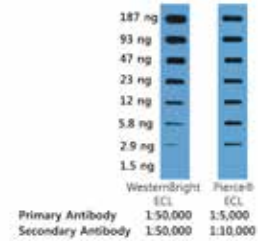
Catalog	Product
IS1027	Sapphire Biomolecular Imager - PI

# Western Blot Detection Reagent : Advansta

## WesternBright™ ECL&Spray

- 더 강한 신호 세기
- 더 높은 민감도
- 적은 양의 protein 감지
- antibody Conserving (10배 이상 희석)
- \* Recommended for X-ray film

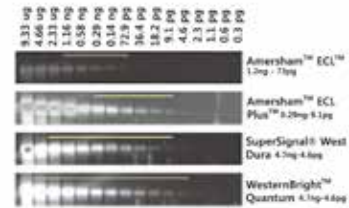
K-12045-D50	500 ml
K-12049-D50	500 ml



## WesternBright™ Quantum

- 더 높은 민감도
- 정확한 정량 분석
- 매우 낮은 background signal
- 오래 가는 신호 세기
- \* Recommended for CCD imaging

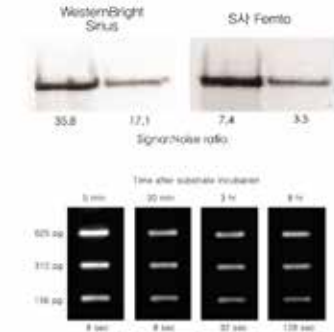
K-12042-D10	100 ml
K-12042-D20	200 ml



## WesternBright™ Sirius

- Advansta HRP substrate 중 가장 높은 민감도
- 오래 가는 신호 세기
- 매우 낮은 background signal
- 정량적인 신호 세기
- \* Recommended for CCD imaging

K-12043-D10	100 ml
K-12043-D20	200 ml



## WesternBright™ ChemiPen

- 실험의 정확도 향상 Improve accuracy
- 실험한 날짜 또는 ID를 영구적으로 blot에 표시
- HRP substrate stability 확인
- X-ray film과 CCD imagers 모두에 사용 가능

R-07055-001	EA
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## WesternBright™ Visio

- 전기영동 중에 즉시 protein band 확인 가능
- 높은 민감도 (최소 10-20 ng까지 detection)
- reducing gel 과 non-reducing gel 모두 사용 가능
- downstream mass spectrometry에 적용 가능

K-12043-D10	100 ml
K-12043-D20	200 ml






# Azure Aqua™ Vertical Gel Running System



## Product Features

- Quad Mini-Cell :  
1-4 개의 Gel을 (10 cm x 8 cm) 동시에 영동 가능, 타이트한 밀봉으로 빠르고 쉬운 전기영동.
- Transfer Cell :  
2개의 카세트로 트랜스퍼 가능. 카세트와 electrode의 색깔로 트랜스퍼 방향을 쉽게 구분 가능.
- Power Supply :  
4개의 출력단자, 등 전압, 등 전류, 등 전력모드 (최대 600 V, 1.2 A, 500 W)

## Specification

			
Product	Quad Mini-Cell	Transfer Cell	Power Supply
Part number	AC4200	AC4201	AC4202
Product description	4-gel cell includes 5 1 mm-gel combs (10 and 15 wells), 5 spacer plates (1.5 mm optional), 10 short glass plates, 4 casting stands, 4 casting frames, 5 gel shovels, electrode assembly, tank, lid with power cables, and mini-cell buffer dam. Compatible with mini gels cassette dimensions 10 x 8 cm.	Transfer cell includes 2 gel transfer cassette holders, 6 sponges, 2 cooling units, electrode assembly, tank, and top lid with wire.	Power supply includes output range of 5-600 V, 1-1200 mA, 1-500 W, LCD readable voltage, current, power, and 4 connections for electrophoresis and transfer.
Unit dimensions (W X L X H, cm)	13.5 x 17.5 x 19	13.5 x 17.5 x 19	24 x 30.5 x 10
Weight	1,000 g	820 g	2,540 g
Recommended power supply	Azure Aqua Power Supply 600 V	Azure Aqua Power Supply 600 V	NA
Number of gels	1-4 precast (most major brands) or handcast gels	2 precast or handcast gels	NA
Tank buffer volume	2 gels : 540 ml 4 gels : 1,100 ml	1,100 ml	NA
Maximum gel size (cm)	6.7 x 8.6	7.5 x 10	NA
Typical run times	30-45 minutes at 200 V	1 hour at 55 V	NA
Gel cassette size(W x L, cm)	10 x 8	NA	NA
Number of cassettes	NA	2	NA
Blotting area	NA	7.5 cm x 10 cm	NA
Output specifications	NA	NA	600 V, 1.2 A, 500 W
Safety features	NA	NA	Automatic monitoring of over-voltage, no load, overload, and short circuit
Type of output	NA	NA	4 output terminals with constant voltage, current, and power

# Protein Electrophoresis & Blotting System : Cavoy Products



## Mini P-4 Vertical

- VE-8001 Mini P-4 Vertical Electrophoresis 4-gel System (4-gels, 1.0 mm or 0.75 mm or 1.5 mm)
- VE-8002 Mini P-4 Vertical Electrophoresis 2-gel System (2-gels, 0.75 mm or 1 mm or 1.5 mm)



## Mini P-4 Vertical

- TE-3030 Mini-TBC Electrophoretic Transfer cell includes : Mini P-4 cell lid with cables, buffer tank, Mini-TBC transfer module, holder cassettes (2-gel), fiber pads (4-gel), cooling units
- TE-3035 Mini-TBC trans blot module includes : transfer module, holder cassettes (2-gel), fiber pads (4-gel), cooling units



## Mini P-4 Vertical

Cat. No	Product
VE-1100	Short Plate, 5 ea/set
VE-1101	Spacer Plate, 0.75 mm, 5 ea/set
VE-1102	Spacer Plate, 1.0 mm, 5 ea/set
VE-1103	Spacer Plate, 1.5 mm, 5 ea/set
VE-1200	Comb, 0.75 mm, 10-well, 5 ea/set
VE-1201	Comb, 1.0 mm, 10-well, 5 ea/set
VE-1202	Comb, 1.5 mm, 10-well, 5 ea/set
VE-1203	Comb, 0.75 mm, 15-well, 5 ea/set
VE-1204	Comb, 1.0 mm, 15-well, 5 ea/set
VE-1205	Comb, 1.5 mm, 15-well, 5 ea/set

# Automated Western Blot Development : BlotCycler™ Touchs

## Product Features

- Western blot membrane 자동 washing 장치
- 기존에 사용하던 소모품 (buffer, membrane, antibody 등)을 그대로 사용 가능
- 사용하던 실험 조건 그대로 사용
- 사용한 primary antibody는 자동으로 회수
- 야간 시간을 활용하여 blotting 시간을 자유롭게 조절
- 최대 6가지 각기 다른 primary, secondary antibody 사용 가능
- 다양한 membrane 사용 가능 (mini, midi 4에서 6장 까지)



## Specification

- Input Voltage : 100-240V AC (single phase)
- Power frequency : 5.0A max Polyurethane trays and tank
  - Delta : 3 ml - 5 ml per chamber : 4 cm x 10 cm
  - Mini : 8 ml - 25 ml per chamber : 10 cm x 8 cm
  - Midi : 13 ml - 40 ml per chamber : 10 cm x 15 cm
- Dimensions : 35 cm W X 34 cm H x 42 cm D (with mini tray)
- Weight : 12 kg

# Automated Western Blot Development : BlotCycler™ Mini

## Product Features

- Western blot membrane 자동 washing 장치
- 기존에 사용하던 소모품 (buffer, membrane, antibody 등)을 그대로 사용 가능
- 사용하던 실험 조건 그대로 사용
- 사용한 primary antibody는 자동으로 회수
- 야간 시간을 활용하여 blotting 시간을 자유롭게 조절
- 최대 2가지 각기 다른 primary, secondary antibody 사용 가능
- 최대 2종류의 blot을 동시에 processing 이 가능



## Specification

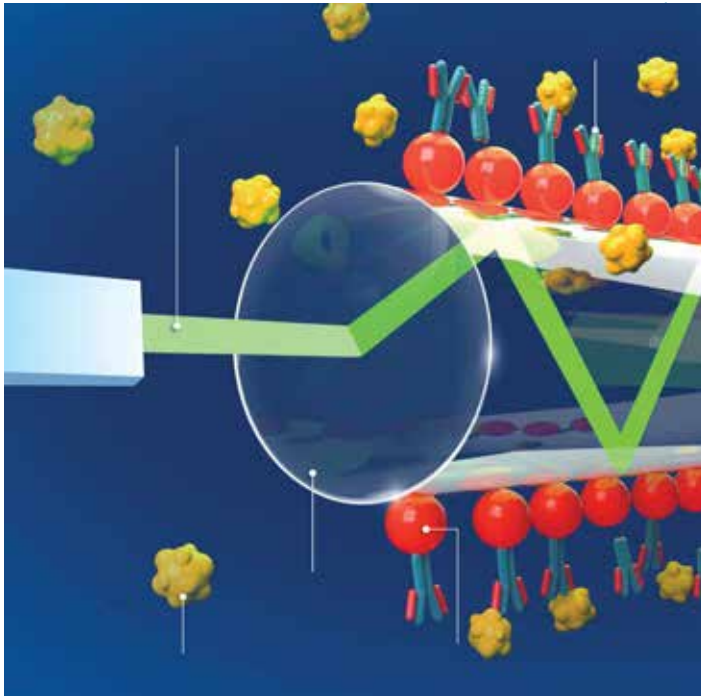
- Input Voltage : 100-240V AC (single phase)
- Input Voltage : 4.0 A max
  - Delta : per chamber : 4 cm x 10 cm
  - Mini : per chamber : 10 cm x 8 cm
  - Midi : per chamber : 15 cm x 10 cm
  - Mega : per chamber : 30 cm x 10 cm
- Dimensions : 44 cm W X 30 cm H x 26 cm D
- Weight : 6.8 kg

# INSTANT NanoBiosensors INB-D200

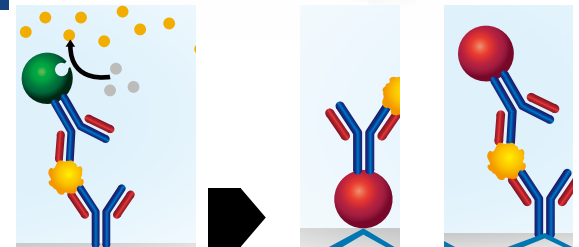
## Technology Features



- Fiber Optic Particle Plasmon Resonance (FOPPR™) Technology
- 희석, 농축 필요 없는 ELISA, SPR 대체 Label-free 감지기술
- 목적 분석물을 탐지하는 프로브 물질이 공유결합된 골드나노입자가 도포된 광섬유를 통과하는 전반사광의 광량감소를 측정하여 시료내의 목적분석물의 양을 측정합니다.



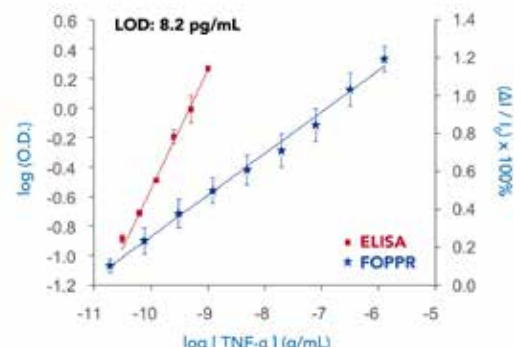
- Label-free 감지기술 : ELISA의 발색효소, 형광물질 등 라벨링 필요없이 다양한 분자간 결합을 감지합니다. 예를들면, 항원-항체, 단백질상호작용, 단백질-리간드, 핵산 hybridization, 화학물질감지 등 입니다.
- 넓은 감지농도영역 (pico- to micro-g/mL) : ELISA, SPR 보다 넓은 dynamic range로 고농도 시료부터 극미량 시료 까지 희석, 농축없이 측정합니다. ELISA 포맷 (Enhancement Assay)의 경우 femto-g/mL이 가능합니다.



ELISA를 대체한 FOPPR 응용

"Quantification of tumor necrosis factor- $\alpha$  and matrix metalloproteinases-3 in synovial fluid by fiber-optic particle plasmon resonance sensor."  
Analyst 2013, 138, 4599-4606

- 보다 빠른 결과도출 : 시료 투입 후 결과 확인까지 수 시간이 걸리는 ELISA에 비해 최대 15분 간 결과를 실시간으로 확인합니다.
- KD 계산 : 일련의 농도 표준시료를 차례로 주입한 자료로부터 dissociation curve 실험 없이 바로 KD 평형상수를 얻습니다.



	시료 투입	감지 항체	발색 시약	
ELISA	>5시간	배양	배양	배양
D200	<15분	FOPPR 측정		ELISA 리더 측정



# 물질 상호작용 분석기 : Creoptix WAVEsystem



## WAVE core

라벨 프리 샘플에 대해 실시간 물질 결합 반응 측정

## WAVE chip

결합 반응 측정을 위한 소모품



## WAVE sampler

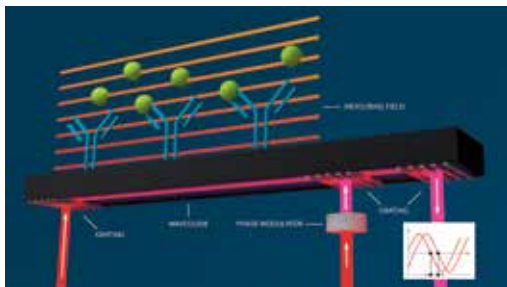
최대 768개 샘플 탑재 및 core 기기로 자동 주입시키는 역할

## WAVE control

자동 구동 및 분석을 위한 소프트웨어

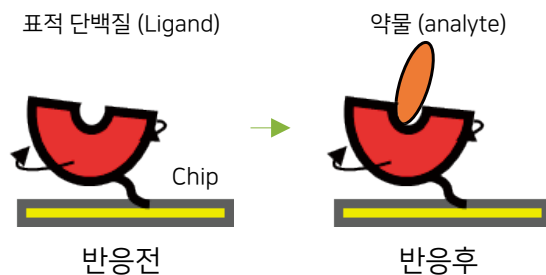
## Product Features

- 고감도의 **GCI (Grating-Coupled Interferometry)** 방식의 물질 상호 작용 분석
  - Noise < 0.01 pg/mm<sup>2</sup> (1 pg/mm<sup>2</sup>=1 RU)
  - 타겟 단백질에 결합하는 약물 발굴 (Screening)
  - 약물의 Affinity, Kinetics (물질 상호 작용)을 특성 분석 (Characterization)

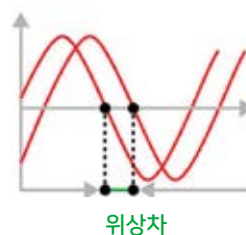


- GCI 센서 표면의 물질 결합 반응 신호를 받은 빛이 다른 빛과 만나 간섭 파동의 위상이 변화됨.
- 물질 결합 반응 전 후의 시간당 위상 변화량 (phase-shift) 을 물질 결합 반응 양으로 측정함.
- 실시간으로 기록된 sensorgram을 통해 소프트웨어에 의해 물질 상호작용 분석 (affinity, kinetics)을 자동 평가 수행함

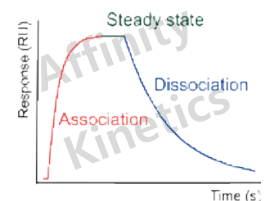
### Chip상 물질 결합반응



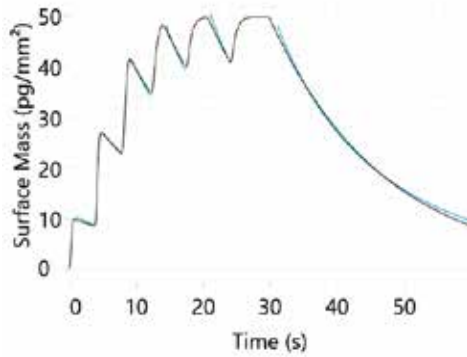
### GCI센서 위상차 측정



### 물질 상호작용 분석



- **waveRAPID** 분석방법으로 고속 대용량 실험 가능
  - 1,056 개 샘플을 2 일내 자동화 분석 가능



항목	waveRAPID 분석 방법	Multi-cycle kinetics 분석 방법
방법	1 샘플당 1개 희석 농도 준비 1회 주입하여 1 결과 산출	1 샘플당 6개 희석 농도 준비 6회 주입하여 1 결과 산출
생산성	1,056 개 샘플 2일 소요 (16 배 이상 시간 단축)	1,056 개 샘플 35 일 소요
비고	WAVEdelta 모델에서만 가능	-

waveRAPID (**R**epeated **A**nalyte **P**ulses of **I**ncreasing **D**uration)은 single-cycle kinetics법을 개선하여 1 샘플당 1 개 희석 농도만 준비하여도 가능한 Creoptix사의 특허 방법입니다.

• 노즐이 막히지 않는 **WAVEchip** (소모품)



- 교차오염이 없고 쉬운 유지 보수- 마이크로 밸브 없는 디자인
- Acetonitrile, 고농도의 DMSO 등의 용매에 대응
- 다양한 샘플을 이용한 어플리케이션을 위해 다양한 표면의 센서 칩 라인업
- Crude sample (혈청 또는 혈장, 항체, 바이러스-유사 입자, 바이러스, 리포좀, 막 단백질)
- 저분자/단편 라이브러리, 난이도가 높은 화합물, 1000 nm까지의 입자에 대응

## Product Specification of WAVE system

models	WAVE-2ch	WAVEdelta-4ch
Technology	GCI	
Baseline noise	< 0.01 pg/mm <sup>2</sup> (at 1Hz)	
Baseline drift	< 0.3 pg/mm <sup>2</sup> /min	
Readout Frequency	1, 10 or 40 Hz	
Association rate constant (ka)	ka = 10 <sup>2</sup> - 5x10 <sup>7</sup> M <sup>-1</sup> s <sup>-1</sup> (Small molecules) ka = 10 <sup>2</sup> - 3x10 <sup>9</sup> M <sup>-1</sup> s <sup>-1</sup> (Large molecules)	
Dissociation rate constant (kd)	kd = 10 <sup>-6</sup> - 10 s <sup>-1</sup>	
Equilibrium constant (KD)	1 pM - 1 mM	
Flow rate	1 - 400 µl/min	
Crude Sample	Yes	
Sample concentration	no lower limit	
Molecular weight Detection	no lower limit	
Required sample volume	Injection volume plus 15 - 50 QI (application dependent)	
Sample Injection volume	< 450 QI, 100 QI typical	
Sample Capacity	Maximum 768 samples (48x2/96x2/384x2)	
Sample storage	4 - 45 °C (max 15 °C below ambient)	
Automation	120 h of unattended operation	
<b>Number of flow cells</b>	<b>2, parallel</b>	<b>4, parallel</b>
Analysis temperature range	15-40 °C	4-45 °C
Running Buffers	1	4
<b>waveRAPID</b>	<b>No</b>	<b>Yes</b>

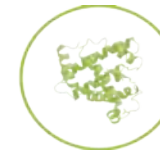
## Application Field



**Membrane Proteins**



**Antibodies**



**Proteins**



**Peptides**

# 3D Cell Culture incubator : CLINOSTAR™



## Product Features

- Spheroid & Organoid Cell culture incubation system
- Tablet을 이용하여 편리한 관리 (회전 속도, CO<sub>2</sub> 농도 등 조절 가능)
- Hypoxia Module 지원
- 안전한 Incubation 시스템 (Chamber에 UV-C beacon 및 fan이 설치)
- 최대 6개의 Cell 배양 가능
- 실시간 모니터링 시스템



## Specification

CO <sub>2</sub> -data	
CO <sub>2</sub> range [Vol.-% CO <sub>2</sub> ]	0 - 10 %
CO <sub>2</sub> measurement	IR
CO <sub>2</sub> pressure inlet	0.8 atm
Temperature data	
Temperature range 6 °C above ambient temperature to	20 °C above ambient
Temperature regulation accuracy	3 0.25 °C
Electrical data	
Rated Voltage [V]	230 / 110
Power frequency [Hz]	50/60 Hz
Nominal power [W]	65
Phase (Nominal voltage)	1 ~
Measures	
Internal diameter	305 mm
Internal depth	80 mm
External dimensions (W x H x D)	45 x 42 x 25 cm
Door	
Closing mechanism	Push to open mechanism
Monitoring	
Cameras	6 cameras placed opposite to each axel
Camera resolution	opposite to each axel

Decontamination	
Incorporated method	UV-C LED (Only when door is closed) 30 mA
Axels	
Capacity	6 axels
Speed range (min-1)	0 - 100
Speed Accuracy	± 1 %
Direction	Clockwise and anticlockwise
Control	The speed of each axel can be controlled individual
Controller	
Device	Tablet based
Communication method	Wi-Fi, Ethernet
Screen size	10, 1
Screen resolution	1920 × 1200
Units to control	50
Safety	
high-power UV LED	Only when door is closed
Features	
Vertical stacked configurations	Up to 3 units
Cluster configuration	Up to 50 units

## Related Products

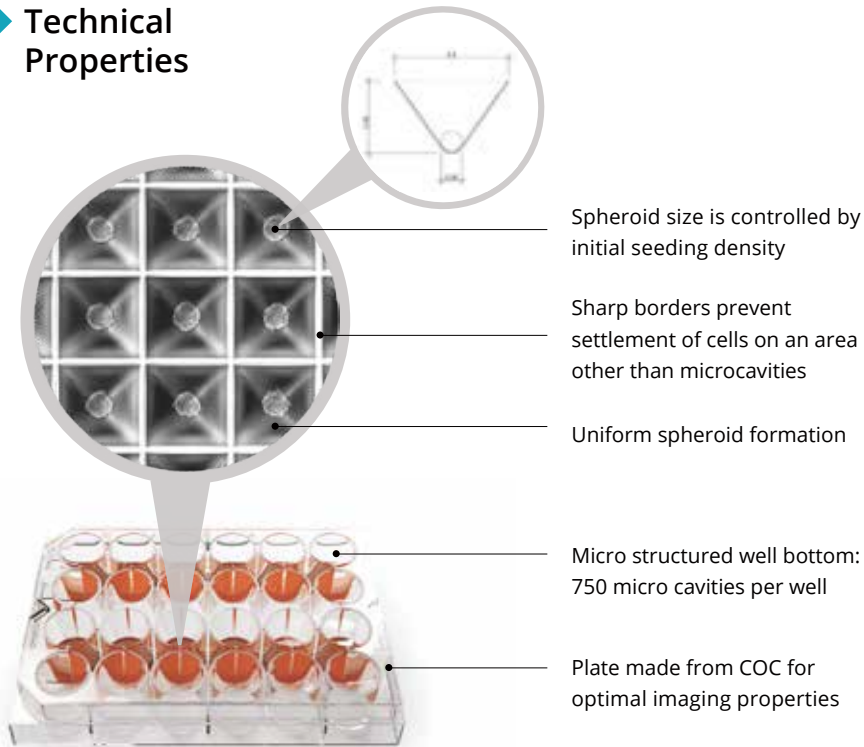
Explanation	
CLINOREACTOR™	최적의 Spheroid, Organoid 배양에 맞게 제작된 Bioreactor
CONTROL UNIT	CLINOSTAR™를 조절, 실시간 모니터링을 하는

# 3D Cell Culture with microwells : SPHERICALPLATE 5D

## Product Features

- 균일하고 표준화된 스페로이드 형성
- 추가 코팅 처리 필요없이 바로 사용 가능
- 플레이트당 최대 9000개의 스페로이드 형성, 웰 별 부분 사용 가능
- Cell seeding 후 추가 원심분리 단계가 필요하지 않음
- 다양한 셀라인 및 co- culturing of mixed cell 배양 가능
- COC (Cyclic Olefine Copolymer)플레이트로 백그라운드없는 이미징 가능

### Technical Properties



## Specification

Number of Microwells		Volumes / well	
Per well	750	Theoretical max. volume	3.0 ml
Per plate	9000	Working volume	0.5-2.0 ml

# Automated live cell imaging system : Celloger Nano, Mini Plus, Pro

## Product Features

- 듀얼 형광(Green & Red) 동시 촬영 가능(Pro신제품출시)
- Bright field imaging 및 Fluorescence imaging  
단색 형광(Green or Red) 촬영 가능
- Compact size Standard CO<sub>2</sub> incubator에 쉽게 넣을 수 있는 사이즈
- Multi-Position Imaging으로 최대 96-well 까지 Multi-point imaging 가능
- 다양한 세포 배양 용기 호환가능(Well plate, Petri-dish, T-plask, Slide)
- 여러 Imaging methods를 이용하여 Time-lapse 촬영 가능  
(Z-stacking, Stitching, Auto focusing)
- 2x, 4x, 10x 까지 배율 선택 가능



## Specification

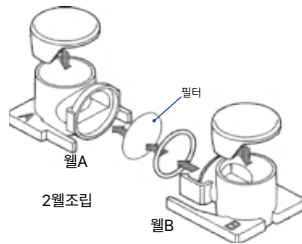
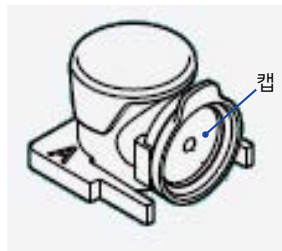
Products	Nano	Mini Plus	Pro
Bright field imaging		○	
Fluorescence imaging (green or red)	Green or Red	Green or Red	Green & Red
Magnification	4X/10X	4X/10X	2X,4X,10X (User interchangeable)
Auto focusing system		○	
Z-stacking		○	
Stitching	x		○
Multi-point imaging	x		○
Time-lapse imaging		○	
Culture vessels	Flask, dish, well plate, slide	Flask, dish, well plate	Well plate up to 96 well, flask, dish, slide
Dimension(LxWxH)	211 x 146 x188 mm	226 x 358 x 215 mm	250 x 338 x 412 mm
Weight	3.2kg	5.6kg	9.6 kg

# ICCP (Interactive Co-Culture Plate)

## Product Features

- 일본 가나자와 의과대학의 Takeo Shimasaki 교수 : 개발 및 특허출원
- 세포에서 분비된 인자가 용기 사이 필터를 통과하는 수평 이동형 indirect co-culture 배양 용기
- 배양 중 양쪽 용기 모두 용기밀면 세포 관찰이 쉬움.
- 두 용기 모두 같은 재질 사용으로 다른 용기 재질 사용으로 인한 영향을 최소화함.
- 가운데 필터를 원하는 사양(구멍크기 및 밀도)을 구하여 끼울 수 있음.
- 세포밀도가 높은 경우에도 분비인자의 용기간 이동을 방해하지 않음.
- 수직형 용기에 비해 높은 exosome 이동밀도

## 다양한 배양웰 조립형식



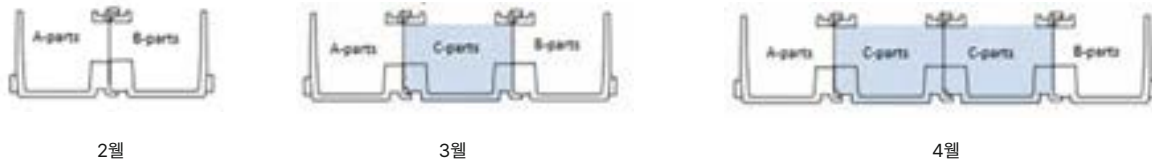
2개의 2웰

단독배양

3웰 조립



다중웰조립





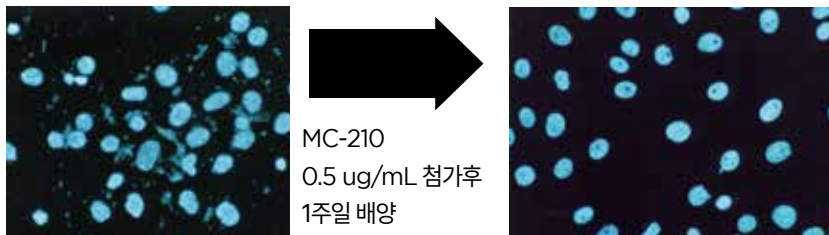
## Specification

Product	Cat.No	Component
ICCP (Interactive Co-Culture Plate)	2501-02AB	박스 당 10x 버블팩  버블팩 구성품 Well A (PS) 2 EA Well B (PS) 2 EA Docking plate (PS) 1 EA Cap (PP) 4 EA Lid cover (LDPE) 4 EA O-ring (VMQ) 1 EA
C-Body (Connector for Horizontal Co-culture plate)	2504-02	박스당 5x 버블팩  버블팩 구성품 C-Body (PS) 2 EA O-ring (VMQ) 2 EA Cap (PP) 4 EA Lid cover (LDPE) 2 EA Docking plate(PS) 2 EA
ICCP Filter 0.6 $\mu$ m 감마멸균필터	2525-06	1 통당 50 개 필터 구경 13 mm 재질 polycarbonate pore size 0.6 $\mu$ m 감마멸균완료
ICCP Filter 0.03 $\mu$ m 감마멸균필터	2525-003	통당 50 개 필터 구경 13 mm 재질 polycarbonate pore size 0.03 $\mu$ m 감마멸균완료
ICCP Filter 1.2 $\mu$ m 감마멸균필터	2525-12	1 통당 50 개 필터 구경 13 mm 재질 polycarbonate pore size 1.2 $\mu$ m 감마멸균완료
ICCP Adapter	2596-01	4개 ICCP를 넣을 수 있는 어댑터 (4개 ICCP 포함)

# Mycoplasma Removal Agents

## Product Features

- 일본 가나자와 의과대학의 Takeo Shimasaki 교수 : 개발 및 특허출원
- 세포에서 분비된 인자가 용기 사이 필터를 통과하는 수평 이동형 indirect co-culture 배양 용기
- 배양 중 양쪽 용기 모두 용기밀면 세포 관찰이 쉬움.
- 두 용기 모두 같은 재질 사용으로 다른 용기 재질 사용으로 인한 영향을 최소화함.
- 가운데 필터를 원하는 사양(구멍크기 및 밀도)을 구하여 끼울 수 있음.
- 세포밀도가 높은 경우에도 분비인자의 용기간 이동을 방해하지 않음.
- 수직형 용기에 비해 높은 exosome 이동밀도



각종 Mycoplasma 및 Acholeplasma에 대한 MC-210 및 여러 약물의 유효성 자료

Species	MC-210		MC-110		Tiamulin		Monocycline	
	MIC	MMC	MIC	MMC	MIC	MMC	MIC	MMC
M. orale CH-19299	0.05	0.1	0.2	0.39	0.0031	3.13	0.05	25
M. arginini G-230	0.1	0.2	0.05	0.1	0.0063	12.5	0.2	> 100
M. hyorhinis BST-7	0.05	0.1	0.05	0.1	0.0031	0.39	0.0031	0.39
A. laidlawii PG-8	0.0125	0.025	0.1	0.2	0.05	> 100	0.05	> 100
MIC/MMC	2		2		128 ~ 2048		512 ~ 2048	

MIC : Minimum Inhibitory Concentration (ug/mL) MMC : Minimum Mycoplasmacidal Concentration (ug/mL)

오염된 배양세포에 대한 마이코플라스마 제거효과

Species	MC-210 배양일수			
	0	7	14	21
사람 유래세포-A				
0.39	+	-	-	-
0.2	+	-	-	-
0.1	+	-	+	+
0	+	+	+	+
사람 유래세포-B				
0.78	+	-	-	-
0.39	+	-	-	-
0.2	+	-	-	-
0.1	+	+	+	+
0	+	+	+	+

Species	MC-210
Mycoplasma fermentans PG-18	0.0125
Mycoplasma salivarium PG-20	0.1
Mycoplasma hominis PG-21	0.1
Mycoplasma buccale CH-20247	0.025

MIC : Minimum Inhibitory Concentration (ug/mL)

+ : 마이코플라스마양성    - : 마이코플라스마음성

## Specification

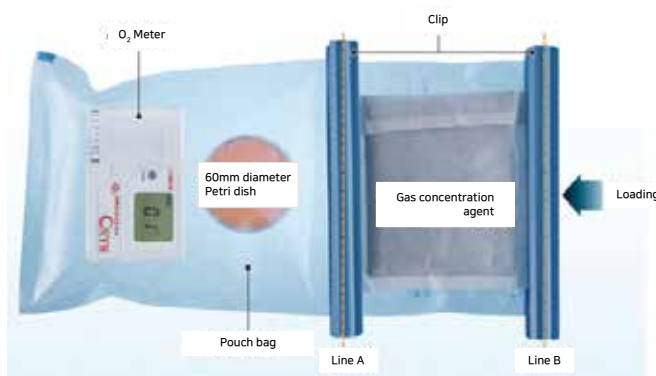
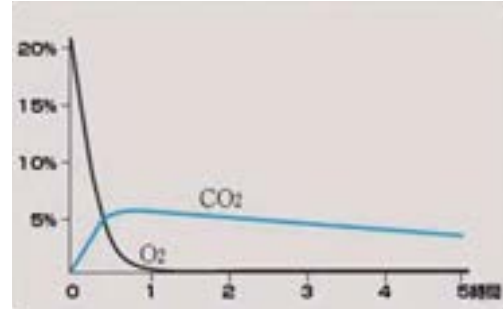
Product	Cat. No	Component
MC-210	MC-210	5 mL (50ug/mL)

# 저산소 세포 배양 키트



## Product Features

- CO<sub>2</sub> 인큐베이터, 산소, 질소, 혼합가스 봄베 없이도 배양 실험이 가능
- 비닐주머니 내 산소농도를 0.1~15%로 조절하여 배양 가능
- 사용하기 쉽다.
- 저렴한 초기 비용 및 운용 비용
- O<sub>2</sub>농도를 자유롭게 설정 가능
- 다양한 O<sub>2</sub>농도 실험이 가능
- 현미경으로 저산소 상태의 세포 관찰이 가능.
- 저산소 상태로 방사선 조사가 가능
- 가설 검증이 쉽다.



- 비닐주머니에 순서대로 O<sub>2</sub>미터, 배양용기, O<sub>2</sub>제거제 / CO<sub>2</sub>생성제를 넣고 B선을 클립으로 집는다.
- O<sub>2</sub>미터를 보고 원하는 산소농도로 떨어지면 A선을 클립으로 집는다.
- 비닐주머니의 배양온도를 유지하기 위해 인큐베이터에 넣는다.

## Specification

Product	Cat. No	Component
nBIONIX-1	NBX-1	소형 저산소키트 구성
		비닐주머니 (W155 x L330) 20장
		O <sub>2</sub> 제거제 / CO <sub>2</sub> 생성제 20개
		클립 17 L 3개
		O <sub>2</sub> 미터 1개
nBIONIX-2	NBX-2	중형 저산소키 구성
		비닐주머니 (W220 x L300) 20장
		O <sub>2</sub> 제거제 / CO <sub>2</sub> 생성제 20개
		클립 24 L 3개
		O <sub>2</sub> 미터 1개
nBIONIX-3	NBX-3	대형 저산소키트 구성
		비닐주머니 (W250 x L400) 20장
		O <sub>2</sub> 제거제 / CO <sub>2</sub> 생성제 20개
		클립 28 L 3개
		O <sub>2</sub> 미터 1개
소모품	NBX-1s	비닐주머니 (대형, 30장)
	NBX-2s	비닐주머니 (중형, 30장)
	NBX-3s	비닐주머니 (소형, 40장)
	NBX-4s	O <sub>2</sub> 제거제 / CO <sub>2</sub> 생성제 (20장)

# Exosome Maximum Production Kit

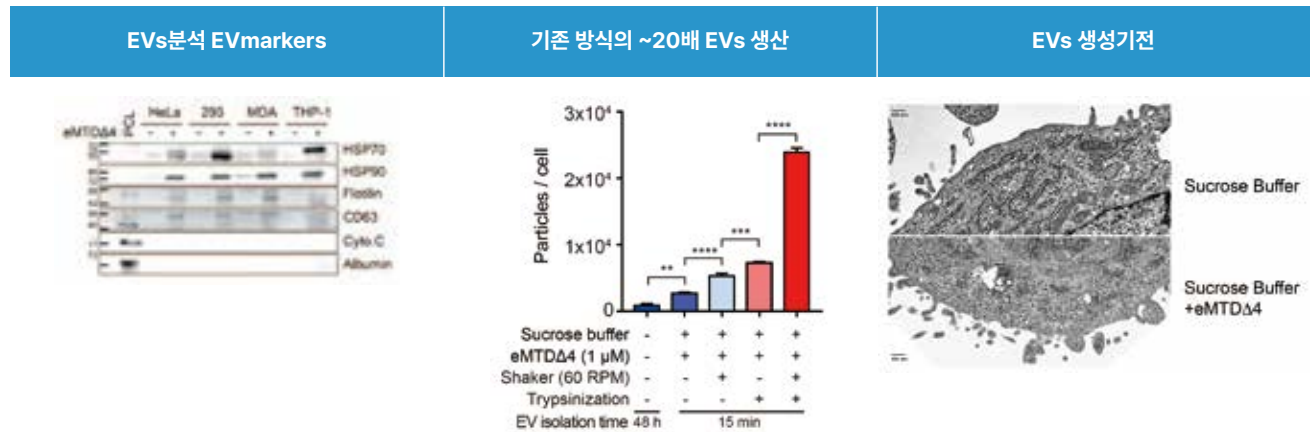
기존에 Exosome 생산을 위한 긴 배양시간과 낮은 농도의 Exosome 추출과는 다르게 빠르고 효율적이고 간편하게 Exosome 생산량 증가를 가능하게 합니다. 또한, Exosome을 대량 생산하기 위한 대량의 세포 배양과정이 필요없이 일정 수준의 세포에서 기존 대비 20배 이상의 Exosome 생산을 가능하게 합니다.

## Product Features

**Rapid:** Exosome 생산시간 단 15분이면 충분



**Efficient:** 기존대비 최소 20배 이상 높은 생산량



**Chemically Defined media:** 간단한 화학적 버퍼 사용 (Serum-free)

## Ordering information

Cat No.	Reagent	Stored at (°C)	Volume	Size
EVe2301	EC Buffer	4	100 ml	10
	STOP Buffer	4	6ml	
	EC Peptide	-20	2mg	
EVe2302	EC Buffer	4	200ml	20
	STOP Buffer	4	12ml	
	EC Peptide	-20	4mg	

# IZON : GEN2 qEV Column



Exosome 전용 SEC (Size Exclusion Chromatography) 컬럼을 사용하여 보다 쉽게 Exosome을 크기 별로 분리할 수 있습니다.

## 컬럼 종류 (qEV Column 35,70 nm는 GMP grade용 있습니다.)

qEV 20nm					
Gen2 모델	qEVsingle	qEVoriginal	qEV1	qEV2	qEV10
시료량(ml)	0.15	0.5	1	2	10
재사용	일회용	5회 재사용			
분리편의	AFC V2사용 및 수동 분리				
추천시료	세포배양액, 혈장, 혈액, 소변, 체액, 뇌척수액, 체액, 눈물, 침 등				
비고	엑소좀 RNA 추출에 추천				대용량 분리를 위한 Luer Lock 피팅

qEV 35nm						
Gen2 모델	qEVsingle	qEVoriginal	qEV1	qEV2	qEV10	qEV100
시료량(ml)	0.15	0.5	1	2	10	100
재사용	일회용	5회 재사용				
분리편의	AFC V2사용 및 수동 분리					수동분리
추천시료	세포배양액, 혈장, 혈액, 소변, 체액, 뇌척수액, 체액, 눈물, 침 등					
비고	엑소좀 RNA 추출에 추천					대용량 분리를 위한 Luer Lock 피팅

qEV 70nm						
Gen2 모델	qEVsingle	qEVoriginal	qEV1	qEV2	qEV10	qEV100
시료량(ml)	0.15	0.5	1	2	10	100
재사용	일회용	5회 재사용				
분리편의	AFC V2사용 및 수동 분리					수동분리
추천시료	세포배양액, 혈장, 혈액, 소변, 체액, 뇌척수액, 체액, 눈물, 침 등					
비고	엑소좀 RNA 추출에 추천					대용량 분리를 위한 Luer Lock 피팅



## 기타 장비

### AFC V2 (Automatic Fraction Collector)



- Reliable and reproducible
- Ideal for small and large scale use
- Cost effective
- Eliminates human error
- qEV컬럼 유형 RFID자동감지
- 회수량 무게측정
- 파라미터 개인화 :
  - Buffer volume
  - PCV/s
  - 버퍼를 모을지 버릴지 결정 등
- 커루셀
  - 1.5mL / 2mL 튜브 13개
  - 5mL 튜브 7개

### qEV Rack



**qEV Rack**  
(qEVoriginal 용)



**qEV Rack**  
(qEVsingle 용)

## Ordering information

품번	제품명
ICS-20	qEVsingle / 20nm Gen2 - 20 Pack
ICS-35	qEVsingle / 35nm Gen2 - 20 Pack
ICS-70	qEVsingle / 70nm Gen2 - 20 Pack
ICS-20	qEVoriginal / 20nm Gen 2 - 5 Pack
ICO-35	qEVoriginal / 35nm Gen 2 - 5 Pack
ICO-70	qEVoriginal / 70nm Gen 2 - 5 Pack
IC1-20	qEV1 / 20nm Gen2 - 5 Pack
IC1-35	qEV1 / 35nm Gen2 - 5 Pack
IC1-70	qEV1 / 70nm Gen2 - 5 Pack
IC2-20	qEV2 / 20nm Gen2 - 2 Pack
IC2-35	qEV2 / 35nm Gen2 - 2 Pack
IC2-70	qEV2 / 70nm Gen2 - 2 Pack
IC10-35	qEV10 / 35nm Gen2 - 1 Pack
IC10-70	qEV10 / 70nm Gen2 - 1 Pack
IC100-35	qEV100 / 35nm Gen2 - 1 Pack
IC100-70	qEV100 / 70nm Gen2 - 1 Pack
AFC-V2	Automatic Fraction Collector V2
RXT01	qEV RNA Extraction Kit
RCT02	qEV Concentration Kit (store at 4°C)

# Image Based Cell Counter : CellDrop

## Product Features

- 빠르고 정확한 Image Based 방식의 재현성 높은 자동 계수 장비
- Slides 없이 cell count
- 최초의 DirectPipett™ Technology를 이용한 Cell Counter
- Three-Channel Image Overlay
- Cell Gating and Cell Size Histograms
- 정확하고 재현성 높은 결과 획득
- HD Edge Detection
- Powerful Data Reporting

## Specification

<b>Dynamic Range</b>	7 x 10 <sup>2</sup> to 4 x 10 <sup>7</sup> cells/ml
<b>Sample Volume</b>	5 µl (high density) 10 µl (standard) 40 µl (low density)
<b>Measure Speed</b>	Brightfield : 3초 AO/PI : 8.5초
<b>Brightfield Illumination</b>	LED 530 nm
<b>Fluorescence Illumination</b>	LED 470 nm
<b>Emission Filter</b>	AO 530 nm 3 15 nm PI 620 nm 3 15 nm
<b>Camera</b>	FL-Basler acA2040-55 µm BF Basler daA2500-14 µm
<b>Display</b>	High Definition 1280 x 800 7" color display
<b>Detector</b>	FL-Sony IMX265 BF-Semiconductor MT9P031
<b>Connectivity</b>	Wi-Fi, Ethernet, HDMI, 3 USB port
<b>Internal Storage</b>	60 GB
<b>Warranty</b>	2 years

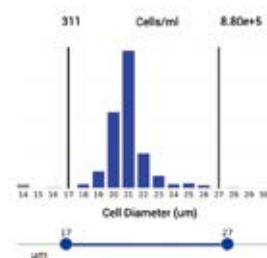
## Products List

Model	Feature
Cell Drop FL	Automated cell counter Dual Fluorescence + Brightfield
Cell Drop BF	Automated cell counter Brightfield Only

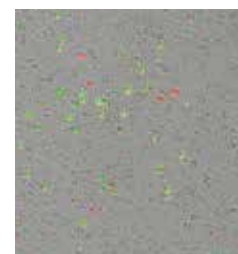


EasyApps software comes preinstalled with cell counting and viability apps for AO / PI, Brightfield, Trypan Blue, GFP, Yeast as well as powerful tools for creating custom applications.

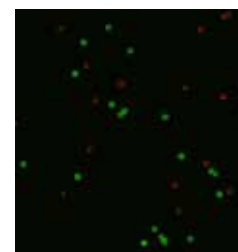
DeNovix®



Cell Size Histograms enable simple size gating and exclusion other cell populations or debris



PBMCs: discriminate between live / dead and non-nucleated cells.



Advanced Declustering Algorithms embedded in EasyApps software improve accuracy and reproducibility even with the most challenging cells.

# Coulter Principle Mini Cell Counter : Moxi Z

## Product Features

- Coulter Principle을 이용한 정확하고 재현성 높은 Cell Counter
- MPI (Moxi Population Index) 값을 이용한 Cell healthy 체크
- Clean bench에서 간단하게 사용 가능



<b>Applications</b>	Cell Counting / Cell Size / Cell Health
<b>Sample Volume</b>	75 µl
<b>Cassette Type M</b>	Dynamic range 4-34 µm Cell Volume 34-20,580 fL
<b>Cassette Type S</b>	Dynamic range 3-26 µm Cell Volume 14 - 4,200 fL
<b>Data Output Formats</b>	.csv format (Orflo MoxiChart or Microsoft Excel)
<b>Weight</b>	0.68 kg

# Coulter Principle GoldStandard Cell Counter : Moxi V

<b>Applications</b>	Gold Standard Cell Counting / Cell Size / Viability
<b>Sample Volume</b>	60 µl
<b>Cassette Type S+</b>	Dynamic range 3-27 µm Cell Volume / Size 14 - 10,306 fL
<b>Number of PMTs</b>	1
<b>Excitation Wavelengths</b>	532 nm
<b>Optical Detection Range</b>	561 nm / LP (e.g. PI)
<b>Data Output Formats</b>	FCS 3.1, screen shots (.bmp), CSV
<b>Display</b>	800 x 480 color touchscreen
<b>Weight</b>	3.6 kg



# Coulter Principle Flow Cytometer : Moxi Go II

<b>Applications</b>	Multiplexed Bead ELISA's / In Cell Westerns In Cell Protein Quant / GFP / Gold Standard Cell Count and Viability / Mito Potential / ROS / Phagocytosis
<b>Sample Volume</b>	60 µl
<b>Cassette Type S+</b>	Dynamic range 3-27 µm Cell Volume / Size 14 - 10,306 fL
<b>Number of PMTs</b>	2
<b>Excitation Wavelengths</b>	488 nm
<b>Optical Detection Range</b>	525/45nm (e.g. FITC, GFP) and 561nm / LP (e.g. PE, RFP)
<b>Data Output Formats</b>	FCS 3.1, screen shots (.bmp), CSV
<b>Display</b>	800 x 480 color touchscreen
<b>Weight</b>	4.53 kg



# DNA Methylation Assays : METHYLDTECT

## Product Features

- HRM qPCR 방식을 이용한 Methylation Assay
- Pre-made Methylation PCR Kit 제공 : 814개 qPCR Kit
- Customizing 가능



### Genomic DNA purification

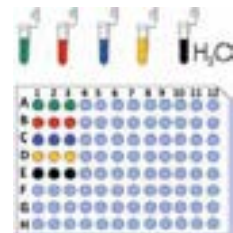
NEB사 Monarch® Genomic DNA Purification Kit (T3010)

### BISULFITE MODIFICATION of DNA template

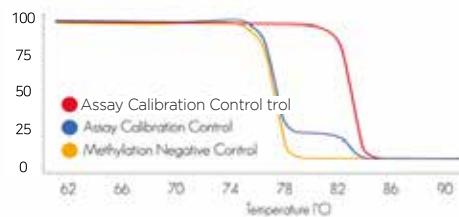
NEB사 EpiMark Bisulfite Conversion Kit (E3318S)

### PCR amplification

- Bisulfite modified biological sample
- Methylation Positive Control
- Assay Calibration Control
- Methylation Negative Control
- No template Control



### High-Resolution Melting (HRM) analysis



# DNA Methylation Assays : METHYLDETEC

## Methyldetect Assay list

	Assay by	Genes No.
<b>Pathway</b>	Apoptosis	22
	Cell cycle	20
	Cytokine Production	22
	DNA Repair	22
	Homeobox Genes (HOX)	93
	Inflammatory Response and Autoimmunity	93
	Mental Disorders	22
	Notch Signaling Pathway	23
	Polycomb Genes PcG	22
	Stem Cell Transcription Factors	91
	Stress Response and Toxicity	92
	T Helper Cell Differentiation	23
	T-Cell and B-Cell Activation	20
	TGF-beta Signaling Pathway	22
	Tumor Suppressor Genes (TSG)	73
	WNT Signaling	22
	Uncategorized	ADAM23, LTBR, LTB4R, IL13RA1, HOXA11, HOXA13
<b>Cancer type</b>	Breast Cancer	92
	Colon Cancer	90
	Gastric Cancer	91
	Leukemia and Lymphoma	89
	Liver Cancer	86
	Lung Cancer	88
	Melanoma	88
	Prostate Cancer	81

## Customer Tailored Services

- Designed to meet your needs in methylation studies
- We design and develop MS-HRM assays targeting your gene of interest from your biomarker discovery studies. The assay can be used on standard equipment in your laboratory
- We can also test your samples with the developed assay at our facilities

# Cloning, *In vitro* Transcription, Array, Competent Cells and Transposon : Lucigen Epicentre

## Product Features

- Application별 특화된 kit, Enzyme 제공
  - NGS Library prep & Enzymes
  - Competents Cell
  - Extraction Kits & Purification Kits
  - Transposase
  - PCR & Amplification, Enzymes



## Product List

### Amplification

Cat. No	Product	Size (UOM)
FS9901K	FailSafe PCR System	1,000 U @2.5 U/μL
FS99060	FailSafe PCR PreMix Selection Kit	1 Kit of 48 Rxns
FS99100	FailSafe PCR System	100 U @2.5 U/μL
FS99250	FailSafe PCR System	250 U @2.5 U/μL
FSE5101K	FailSafe Enzyme Mix Only	1,000 U@2.5 U/μL
FSE51100	FailSafe Enzyme Mix Only	100 U @2.5 U/μL
ME81210	MasterAmp 10X PCR Enhancer	10 mL
MM070150	MMLV Reverse Transcriptase 1st-Strand cDNA Synthesis Kit	50 Rxns
TTH72250	MasterAmp Tth DNA Polymerase	250 U @ 5 U/μL
UG131K	Uracil N-Glycosylase	1,000 U @ 1 U/ μL
W7950ML	Sterile Nuclease-Free Water	50mL

### Competents Cells

Cat. No	Product	Size (UOM)
60051	E. cloni 10G ELITE Electrocompetent Cells	12 / 24 Rxns (SOLOs)
60052	E. cloni 10G ELITE Electrocompetent Cells	12 / 24 Rxns (DUOs)
60052	E. cloni 10G ELITE Electrocompetent Cells	24 / 48 Rxns (SixPacks)
60061	E. cloni 10GF' ELITE Electrocompetent Cells	12 / 24 Rxns (DUOs)
60080	E. cloni 10G SUPREME Electrocompetent Cells	12 / 24 Rxns (DUOs)
60081	E. cloni 10G SUPREME Electrocompetent Cells	12 / 24 Rxns (SOLOs)
60096	E. cloni 10G Chemically Competent Cells	4 plates
60106	E. cloni 10G Chemically Competent Cells	12 / 24 / 48 Rxns (SOLOs)
60107	E. cloni 10G Chemically Competent Cells	12 / 24 / 48 / 96 Rxns (DUOs)
60108	E. cloni 10G Chemically Competent Cells (Subcloning Grade)	48 / 96 Rxns
60110-1	HI-Control 10G Chemically Competent Cells	12 Rxns (SOLOs)
60117	E. cloni 10G CLASSIC Electrocomp Cells	24 / 48 Rxns (SixPacks)
60210	BAC-Optimized Replicator v2.0 Electrocomp Cell	12 / 24 Rxns (DUOs)



Cat. No	Product	Size (UOM)
60215-2	E. cloni 10G BAC-Optimized Electrocomp Cells	25 Rxns (FIVERS)
60224	BigEasy-TSA Electrocompetent Cells	24 Rxns (SOLOs)
60240	Endura Chemically Competent Cells	12 / 24 Rxns (DUOs)
60241	Endura Chemically Competent Cells	12 / 24 Rxns (SOLOs)
60242	Endura Electrocompetent Cells	12 / 24 Rxns (DUOs)
60300	E. cloni EXPRESS BL21(DE3) Electrocompetent Cells	12 / 24 Rxns
60341	OverExpress C41(DE3) Electrocompetent Cells	12 / 24 Rxns (SOLOs)
60345	OverExpress C43(DE3) Electrocompetent Cells	12 / 24 Rxns (SOLOs)
60401	E. cloni EXPRESS BL21(DE3)Chemically Competent Cells	12 / 24 / 48 Rxns
60435-1	HI-Control BL21(DE3) Chem Comp Cells	12 Rxns (SOLOs)
60442	OverExpress C41(DE3) Chem Comp Cells	12 / 24 Rxns (SOLOs)
60444	OverExpress C41(DE3) pLysS Chem Comp Cells	12 / 24 Rxns (SOLOs)
60446	OverExpress C43(DE3) Chem Comp Cells	12 / 24 Rxns (SOLOs)
60448	OverExpress C43(DE3) pLysS Chem Comp Cells	12 / 24 Rxns (SOLOs)
60452-1	OverExpress ChemComboPack	12 Rxns (SOLOs)
60502	TG1 Electrocompetent Cells	12 / 24 Rxns (DUOs)
60512	SS320 (MC1061 F') Electrocompetent Cells	12 / 24 Rxns (DUOs)
60514	MC1061 F- Electrocompetent Cells	12 / 24 Rxns (DUOs)
60522	ER2738 Electrocompetent Cells	12 / 24 Rxns (DUOs)
60602	E. cloni 5-alpha Chemically Competent Cells	12 / 24 Rxns (DUOs)
60701	CJ236 Electrocompetent Cells	12 / 24 Rxns (DUOs)
60810	ClearColi BL21(DE3) Electrocompetent Cells	12 / 24 Rxns (DUOs)
EC10010	TransforMax EC100 Electrocompetent <i>E. coli</i>	20 Rxns
CC02810	TransforMax EC100 Chemically Competent <i>E. coli</i>	10 Rxns
EC6P095H	TransforMax EC100D pir-116 Electrocompetent <i>E. coli</i>	10 Rxns
ECP09500	TransforMax EC100D pir+ Electrocompetent <i>E. coli</i>	10 Rxns
EC300110	TransforMax EPI300 Electrocompetent <i>E. coli</i>	20 Rxns
C300C105	TransforMax EPI300 Chemically Competent <i>E. coli</i>	10 Rxns
EC02T110	TransforMax EPI300-T1R Electrocompetent <i>E. coli</i>	20 Rxns
C400EL10	CopyCutter EPI400 Electrocompetent <i>E. coli</i>	10 Rxns
C400CH10	CopyCutter EPI400 Chemically Competent <i>E. coli</i>	10 Rxns
CIS40025	CopyCutter Induction Solution	25 mL
CCIS125	CopyControl Induction Solution	25 mL
80026-1	Recovery Medium	8 x 12 mL
80030-1	Expression Recovery Medium (lactose minus)	8 x 12 mL

IVT

Cat. No	Product	Size (UOM)
AS3107	AmpliScribe T7 High Yield Transcription Kit	50 Rxns
ASF3257	AmpliScribe T7-Flash Transcription Kit	25 Rxns
ASF3507	AmpliScribe T7-Flash Transcription Kit	50 Rxns
DS010910	DuraScribe T7 Transcription Kit	10 Rxns
DS010925	DuraScribe T7 Transcription Kit	25 Rxns
RN02825	Ribonucleoside-5-Triphosphate Solutions	25 Qmol each

NGS Prep & Enzymes

Cat. No	Product	Size (UOM)
14000-1	NxSeq™ AmpFREE Low DNA Library Kit	12 Rxns
14000-2	NxSeq™ AmpFREE Low DNA Library Kit	48 Rxns
14300-1	NxSeq Adaptors, Box 1	12 x 4 Rxns
14400-1	NxSeq™ Adaptors, Box 2	12 x 4 Rxns
15012-2	NxSeq™ UltraLow DNA Library Kit v2	12 Rxns
15096-2	NxSeq™ UltraLow DNA Library Kit v2	96 Rxns
15100-1	NxSeq™ Single Indexing Kit, Set A	12 x 4 Rxns
15200-1	NxSeq™ Single Indexing Kit, Set B	12 x 4 Rxns
15300-1	NxSeq™ HT Dual Indexing Kit	96 Rxns
A0102K	Ampligase DNA Ligase with Buffer	2,500 U @ 100 U/μL
A0110K	Ampligase DNA Ligase without Buffer	10,000 U @ 100 U/μL
A1905B	Ampligase 10X Reaction Buffer	5 mL
A3202K	Ampligase DNA Ligase with Buffer	2,500 U @ 5 U/μL
A3210K	Ampligase DNA Ligase without Buffer	10,000 U @ 5 U/μL
A32750	Ampligase DNA Ligase with Buffer	750 U @ 5 U/μL
A8101	Ampligase DNA Ligase Kit	1,000 U @ 5 U/μL
CL4111K	CircLigase ssDNA Ligase	1,000 U @ 100 U/μL
CL4115K	CircLigase ssDNA Ligase	5,000 U @ 100 U/μL
CL9021K	CircLigase II ssDNA Ligase	1,000 U @ 100 U/μL
CL9025K	CircLigase II ssDNA Ligase	5,000 U @ 100 U/μL
D9905K	RNase-Free DNase I	5000 U @ 1 U/μL
D9910K	RNase-Free DNase I	10,000 U @ 1 U/μL
E3101K	Plasmid-Safe ATP-Dependent DNase	1000 U @ 10 U/μL
E3110K	Plasmid-Safe ATP-Dependent DNase	10,000 U @ 10 U/μL
EN510250	Exonuclease VII	250 U @ 10 U/μL
ERT12910K	EpiScript RNase H- Reverse Transcriptase	10,000 units @ 200 U/μL
ERT12925K	EpiScript RNase H- Reverse Transcriptase	25,000 units
ERT12925K-1.25ML	Episcript RNase H- Reverse Transcriptase	250,000 Units
ERT12925K-EN	Episcript RNase H- Reverse Transcriptase only	25,000 Units
EX4425K	Exonuclease III	25,000 U @ 200 U/μL
H39500	Hybridase Thermostable RNase H	500 U @ 5 U/μL
KL11101K	Exo-Minus Klenow DNA Poly (D355A, E357A)	1,000 U @ 10 U/μL
LR2D11310K	T4 RNA Ligase 2, Deletion Mutant	10,000 U @ 200 U/μL
LR2D1132K	T4 RNA Ligase 2, Deletion Mutant	2,000 U @ 200 U/μL
PO503K	T4 Polynucleotide Kinase, Clone	3,000 U @ 10 U/μL
PAP5104H	Poly(A) Polymerase Tailing Kit	50 Rxns
RA02825	ATP Solution	25 Qmole (100 mM)
RG90910K	Riboguard RNase Inhibitor	10,000 units @ 40 U/μL
RG90925	Riboguard RNase Inhibitor	2500 units @ 40 U/μL
RJ411250	Rec J Exonuclease	250 U @ 10 U/μL
RNR07250	Ribonuclease R (RNase R)	250 U @ 20 U/μL
RP8092H	RNA 5' Polyphosphatase	200U @ 20 U/μL
RT80125K	MMLV High Performance Reverse Transcriptase	25,000 Units @200 U/μL

STK003588	Proteinase K	
TER51020	Terminator 5'-Phosphate-Dependent Exonuclease	40U @ 1 U/QL
X40520K	Exonuclease I	20,000 U @ 20 U/QL

#### Nucleic Acid Extraction

Cat. No	Product	Size (UOM)
MB711400	MasterPure DNA Purif Kit for Blood, V II	400 mL Whole Blood
MC85200	MasterPure Complete DNA & RNA Purification Kit	200 Purif
MC89010	MasterPure Complete DNA & RNA Purification Kit	10 Purif
MGP04100	MasterPure Gram Positive DNA Purification Kit	100 Purif
MPY03100	MasterPure Yeast RNA Purification Kit	100 Purifications
MPY80200	MasterPure Yeast DNA Purification Kit	200 Purifications
QE09050	QuickExtract DNA Extraction Solution 1.0	50 mL
QE0905T	QuickExtract DNA Extraction Solution 1.0	5 mL
QEF81050	QuickExtract FFPE DNA Extraction Kit	50 mL
QEP70750	QuickExtract Plant DNA Extraction Solution	50 mL
QER090150	QuickExtract RNA Extraction Kit	50 mL
MMP095H	MPC Protein Precipitation Solution	500 mL
MPRK092	Proteinase K	2 mL
MRC0912	Red Cell Lysis Solution	1,200 mL
MTC096H	Tissue & Cell Lysis Solution	600 mL
MTE0970	TE Buffer	70 mL
R1804M	Ready-Lyse Lysozyme Solution	4,000,000 U
R1810M	Ready-Lyse Lysozyme Solution	10,000,000 U

#### PCR Enzymes

Cat. No	Product	Size (UOM)
D7P9205K	7 R&DNA Polymerase	5,000 U @ 50 U/QL
DB0715K	Baseline-ZERO DNase	5000 U
MRNA092	RNase A	2 mL @ 5 mg/mL
N6901K	RNase I	1000 U @ 10 U/QL
OC7850K	OmniCleave Endonuclease	50,000 U

#### Transposase

Cat. No	Product	Size (UOM)
TNP92110	EZ-Tn5 Transposase	10 units @ 1 U/QL

# Plant Specific Product : PhytoTech Lab

## Product Features

- 식물 분자 생물학과 식물 조직 배양 연구 제품 선도
- 식물 조직 배양, 식물 생명공학 및 식물 과학 시장을 대상
- 형질전환을 통한 식물의 genetic improvement



## Application

- Plant Tissue Media
  - Murashige & Skoog Media, Deficient salt
  - Crop Specific Media
  - Woody Plant Media
  - General / Completed Media
- Plant Media Components
  - Plant Growth Regulators : Auxins, Cytokines, PGR solutions
  - Gelling Agents : Agar, Gellan Gun
  - Vitamins / Carbohydrates
  - Antibiotics / Antimicrobial Solutions
  - Genal Biochemicals
- Culture Vessels & Equipment
  - Sterilized Culture Vessels
  - Autoclavable Culture Vessels
  - Forceps, Scalpels...
  - Glass Bead Sterilizer



# iRealBio: Real-IHC PATHOLOGY ANTIBODIES

iRealBio사는 항원단백질의 epitope부분을 합성펩타이드로 사용하여 모노클로날항체급의 폴리클로날항체를 생산하고 있습니다.

- ISO13485 인증을 득하여 현재 파트너 병리실험실에서 Western Blot, IHC, IF 등 실험법 별로 검정하고 있습니다.
- 마우스 모노클로날 항체도 생산하고 있습니다.



**Clinical-IHC images for each antibody**

Better Choice for iReal Clinical-IHC antibody

**Validated for application**

**Comparison with competitors**

N-cadherin 395 Citation Antibody  
iReal Biotechnology Polyclonal antibody  
Cat. IR46-143

**Lot-to-Lot Testing**

Lot1 Lot2 Lot3

**Mouse IHC Array**

## Oncology Biomarkers

Catalog	Product Name	Application	Reactivity	Clonality
IR213-777	Estrogen Receptor alpha antibody	WB, IF, IHC	H, M, R	Rabbit-pAb
IR215-787	Progesterone Receptor antibody	WB, IF, IHC	H, M, R	Rabbit-pAb
IR210-763	HER2 / ERBB2 antibody	WB, IF, IHC	H, M, R	Rabbit-pAb
IR205-742	p63 antibody	WB, IF, IHC	H, M, R	Rabbit-pAb
IR350-950	Thyroid Transcriptional Factor / TTF-1/ NKX2-1 antibody	WB, IHC, Pathology	H, M, R	Rabbit-pAb
IR212-1	Ki-67 antibody	WB, IF, IHC	H, M, R	Rabbit-pAb
IR222-861	Pan-Cytokeratin antibody (Pan-CK)	WB, IF, IHC, FC, CTC, Pathology	H, M	Rabbit-pAb
IR228-868	Cytokeratin 7 antibody	WB, IHC, Pathology	H, M	Rabbit-pAb
IR221-860	MUC1 antibody (extracellular)	WB, IF, IHC	Human	Rabbit-pAb



# ELKBio: 10,000여종 이상의 다양한 항체 레퍼토리

The company's main products

- ELISA KIT 8500+
- Antibody 10000+
- Molecular biology 70+
- Protein/Biochemical assay/Plasmid



ELK Biotechnology



Primary Antibodies



Secondary Antibodies

- Polyclonal Antibody
- Monoclonal Antibody

## 표준물질 희석할 필요없는 Easy Step ELISA Kit

### Product Features

- 표준물질이 8단계로 희석코팅된 8-well strip 2EA 제공
- 표준물질 희석단계가 없어 실험시간 1.5시간으로 단축됨
- 코팅된 항체용량을 올려 시료용량 50ul으로도 실험이 가능
- 테스트 수량 :
  - 48T (8well strip 6EA)
  - 96T (8well strip 12EA)



### Product List

Catalog	Product Name
ELK001ES	EasyStep Human IL6 (Interleukin 6) ELISA Kit
ELK002ES	EasyStep Human CEA (Carcinoembryonic Antigen) ELISA Kit
ELK003ES	EasyStep Human PCT (Procalcitonin) ELISA Kit
ELK004ES	EasyStep Human AMH (Anti-Mullerian Hormone) ELISA Kit
ELK005ES	EasyStep Human Cys-C (Cystatin C) ELISA Kit
ELK006ES	EasyStep Human GH (Growth Hormone) ELISA Kit
ELK007ES	EasyStep Human BNP (Brain Natriuretic Peptide) ELISA Kit
ELK008ES	EasyStep Human sST2 (Soluble Suppression Of Tumorigenicity 2) ELISA Kit
ELK009ES	EasyStep Human OC (Osteocalcin) ELISA Kit
ELK010ES	EasyStep Human PGII (Pepsinogen II) ELISA Kit
ELK011ES	EasyStep Human PSA (Prostate Specific Antigen) ELISA Kit



# miniPCR bio : PCR and related Products

## miniPCR® mini thermal cycler Product Features



- Portable : From the bench to the field (우주정거장에서 사용)
- 500g 미만의 무게, 손바닥에 들어갈 정도의 크기
- 뛰어난 내구성 : three-year warranty
- Windows, Mac, Chromebook, iPad/iPhone, Android와 호환
- AC or battery powered (battery not included)



mini8X

mini16X

mini16X classic



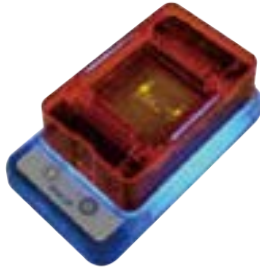
## Specification : Choose your own

	mini8X	mini16X
Number of samples	8	16
Compatible with stand PCR reagents and consumable	•	•
Heated Lid	•	•
Compatible with 0.2 mL 8-tube strips	•	•
Universal voltage compatible	•	•
Windows, Mac, and Android compatible	•	•
Chromebook compatible	•	•
iOS (iphone and iPad compatible)	•	•
USB / Bluetooth connectivity	•	•
FLEX mode programming	•	•
Three-year warranty	•	•

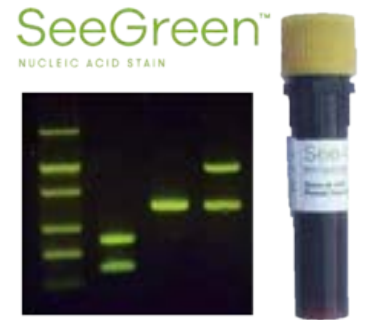
# miniPCR bio : PCR and related Products

## Gel Electrophoresis & related Product

### blueGel™ electrophoresis



### GELATO electrophoresis



## Product Features

- Fast Result
  - 최대 26-50 개의 샘플까지 running, 5-10분 이내 밴드 분리 확인
  - Gel running 동안 실시간으로 밴드 분리 시각화
  - Fold-View imaging hood를 이용하여 전기영동장치에서 직접 이미지 캡처
- Safety (안전)
  - 안전한 blue light illuminator 내장, 편리한 일체형
  - 안전한 핵산 염색; SeeGreen, Gelgreen, SYBR-family dyes
  - 유해한 Ethidium Bromide(EtBr), UV 불필요
  - 낮은 전압, 커버가 제거될 때 자동으로 전류 차단
- Convenience (편리함)
  - 전원공급장치 내장 : Integrated power supply 사용
  - Agarose, TAE, TBE 버퍼와 호환
  - 파우치에 쉽게 보관 가능

## Compare blueGel™ to GELATO™

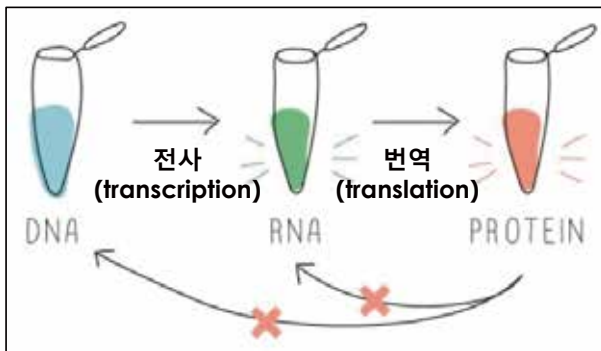
Electrophoresis with transilluminator	blueGel	GELATO
Gel Size	6 x 6 cm	6x6 cm, 12x6 cm
Voltage	Fixed 48 V	50-135 V
Number of samples	Up to 26	Up to 50
Built in transilluminator	●	●
Buffer compatibility	TBE	TAE, TBE, SB
Fold-a-View	●	●
Cutting tray glasses		●
Timer		●
Multi- channel compatible		●

# miniPCR bio : PCR and related Products

## SeeGreen™ Nucleic Acid Stain 20,000X, 200 ul

- Sharper, brighter, straighter 밴드를 얻을 수 있는 nucleic acid staining dye.
- Ethidium bromide (EtBr)를 대체할 수 있는 더 안전한 제품.
- Non-carcinogenic하고 gel staining에 excellent.
- Ultra-sensitive : 0.2 ng of DNA, 1 ng of total RNA 까지 가능.
- Background가 낮은 sharp, straight crisp bands.
- 고농도 (20,000X) : 20 ml agarose gel에 1 μl 사용.
- 4°C in light-protective container에 보관/ 상온배송

## BioBits® Cell-free system : Central Dogma



- 학생들이 유전정보의 흐름 (DNA→RNA→protein)을 직접 눈으로 확인
- 세포가 필요 없는 (cell-free) 기술, 형광으로 검출(fluorescent outputs)
- BioBits® pellets : 세포 배양없이 단백질을 생산할 수 있는 작은 molecular factories
  - Dry BioBits® pellets은 휴면 상태이지만, 물을 첨가하면 활성화됨
- 장비 필요성을 최소화, 빠르고 간단한 프로토콜
- 주제 : 분자생물학, 전사(transcription) 및 번역(translation), 단백질 합성(protein synthesis), 유전자 발현, 형광(fluorescence), 생명공학, 합성생물학(synthetic biology)
- 소요시간 : 30분(1교시 내), 8-72시간 후 10분 관찰
- 수준(Level) : 일반 고등학교에서 대학교

## Product selection guide

Product Name	Cat. No	Size	Intended Use
BioBit Central Dogma classroom Kit	KT-1910-01	8	<ul style="list-style-type: none"> <li>• 8 lab group in as classroom setting</li> <li>• 8 individual in a remote setting (require repacking/distribution)</li> </ul>
BioBit @homeCentral Dogma	KT-1102-01	2	<ul style="list-style-type: none"> <li>• 1 individual in a remote setting (extra run intended as a back up)</li> </ul>
BioBit @home Central Dogma (Set of 10)	KT-1102-10	10 x 2	<ul style="list-style-type: none"> <li>• 10 individual in a remote setting (extra run intended as a back up)</li> </ul>

# Mini-EP Mini Electrophoresis System

## Product Features

- 외형 치수 (W x D x H, mm) : 190 x 130 x 60
- 전기영동조 치수 (W x D x H, mm) : 110 x 121 x 43
- 전기영동조 부피 : 230 ml
- Input Power : AC 100~120 V (50~60 Hz)
- Output Power : DC35 V / DC50 V / DC100 V
- Max Power : 40 W · Timer : 0~99 mins

## Applications

- Comb 치수 (width x thickness x no.)
  - 3 mm x 1 mm x 22
  - 5.6 mm x 1 mm x 12
  - 3 mm x 1 mm x 18
  - 5.6 mm x 1 mm x 10
- Gel 외형치수 (W x D, mm) : 126 x 126 - 1 pcs
- Gel Migration Board (W x D, mm) : 110 x 60 - 2 pcs  
54 x 60 - 4 pcs
- Transformer for AC 200~240 V : AC 220 V (input)  
AC 110 V (output)

# LED Transilluminator

## Product Features

- Compact한 디자인
- Lid : 다양한 각도로 오픈 및 고정할 수 있고 UV광선으로부터 신체보호
- 긴 LED 수명: 60,000h

## Specification

Model	BC-108
Max gel size	160 x 100 mm
Wavelength	470 nm
Size(W*D*H)	220 x 205 x 49 mm
Input voltage	DC 24 V, 1 A
Weight	1.3 kg

# EcoMate Multi-Well Plate Centrifuge

08010-00 Ecomate Multi-well Plate Centrifuge :  
Plate 전용 spin down 원심분리기

## Applications

- Skirted, non-skirted 등 모든 표준 PCR Plates 사용 가능
- Capacity : 2 PCR Plates (96 wells, 384 wells)
- Max. rotational Speed : 2500 RPM
- Relative centrifuge force (RCF) : 500 x g
- Weight : 3 kg

# Mini Centrifuge : Cubee

AQBD Cubee Mini Centrifuge :  
Rotor 교체 없이 모든 종류의 tubes 사용 가능한 소형 원심분리기

## Specification

- Tubes capacity : 1.5 ml x 8, 0.5 ml x 8, 0.2 ml x 16 [8strip pcr tube]
- Speed range : 4700 RPM
- Max. RCF : 1000 x g
- Weight : 1.8 kg
- Size (cm) : 18.3 x 15.1 x 15.3
- \* Optional accessory : 12-Strip Rotor

# Mini vortex : MTV-1








## Specification

- Working style : Continuous / Short-spin
- Shaking movement : Orbital, 3 mm
- Speed Range : 800~2500 rpm
- Dimension (W x L x H, mm) : 74 x 91 x 84
- Voltage : DC6 V (4 pcs 1.5 V double A battery)
- Weight : 0.35 kg

# Nichiryō Pipette

## Product Features

- ISO 9001/14001 기준에 적합한 일본 생산
- 반복적인 실험과정에 높은 정확성과 정밀도로 균일한 결과
- 세계에서 가장 가벼운 70g의 body 무게(Nichipet air)
- 손에 꼭 맞는 인체공학적 설계
- 고성능 Blow out기능으로 작은 볼륨에서도 정확한 분주
- 볼륨조절과 푸시버튼이 독립되어 있어 볼륨조절 실수방지 차단
- Fullbody 완전 고압멸균 가능(121°C, 20min)
- 5년간 무상보증(Nichipet premium)

							
<b>모델명</b>	Nichipet® AIR	Nichipet® Premium	Nichipet® Premium LT	Nichipet® EX PlusII	Nichipet® EXII	Nichipet® AIR Multi	Nichipet® EXII Multi
<b>Range(μl)</b>	0.1-10000	0.1-10000	0.1-1000	0.1-10000	0.1-10000	0.5-300	0.5-300

## Product List

1채널				
Range(μl)	AIR	Premium LT	Premium	EX PlusII
2	00-NAR-2	00-NLT-2	00-NPP-2	00-NPX2-2
10	00-NAR-10	00-NLT-10	00-NPP-10	00-NPX2-10
20	00-NAR-20	00-NLT-20	00-NPP-20	00-NPX2-20
100	00-NAR-100	00-NLT-100	00-NPP-100	00-NPX2-100
200	00-NAR-200	00-NLT-200	00-NPP-200	00-NPX2-200
1000	00-NAR-1000	00-NLT-1000	00-NPP-1000	00-NPX2-1000
5000	00-NAR-5000	-	00-NPP-5000	00-NPX2-5000
10000	00-NAR-10000	-	00-NPP-10000	00-NPX2-10000

Range(μl)	8채널		12채널	
	MULTI-AIR	MULTI-EXII	MULTI-AIR	MULTI-EXII
10	00-NAR-10M8	00-NPM-8VP	00-NAR-10M12	00-NPM-12VP
100	00-NAR-100M8	00-NPM-8SP	00-NAR-100M12	00-NPM-12SP
200	00-NAR-200M8	00-NPM-8LP	00-NAR-200M12	00-NPM-12LP
300	00-NAR-300M8	00-NPM-8KP	00-NAR-300M12	00-NPM-12KP

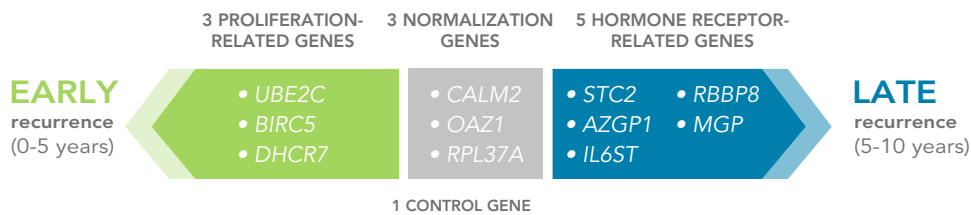


# Molecular Diagnostic Tests



## EndoPredict \_ 2<sup>nd</sup> Generation Breast Cancer Prognostic Kit

- ER+, HER2- 인 초기 유방암 진단 된 환자의 치료 옵션에 하나로 예후 예측에 사용
- One Test \_ Three Clinical Answer
  1. Risk at 10 years
  2. Chemotherapy benefit (Chemotherapy에 따른 benefit 정보 제공)
  3. Risk between 5 and 15 years (Early / Late 전이 위험도 예측 )
- Lymph node 전이 환자에도 적용이 가능 :  
3개 까지의 lymph node에 전이된 환자에 대해서도 검사 가능
- 명확한 Risk Group 분류 (Low Risk / High Risk) :  
기존 prognostic test와 달리 intermediate risk group 없이 분류
- EPcline Score :  
Gene expression signature (12 genes) 에 환자 개인의 tumor size 및 lymph node 전이 정보를 결합



### EPclin Risk Score Algorithm:



# Genetic Cancer Tests

## MyRisk \_ Hereditary Cancer Test

- 48개의 유전자 검사를 통해 11개의 암종에 대한 위험도를 확인하는 검사 :  
유방암, 대장암, 난소암, 자궁내막암, 위암, 췌장암, 피부암, 전립선암, 폐암, 내분비암, 기타 암
- Next Generation Sequencing 분석법 이용
- 혈액 또는 타액 검체
- MyRisk 검사 방법 → Myriad 서비스 검사 방법

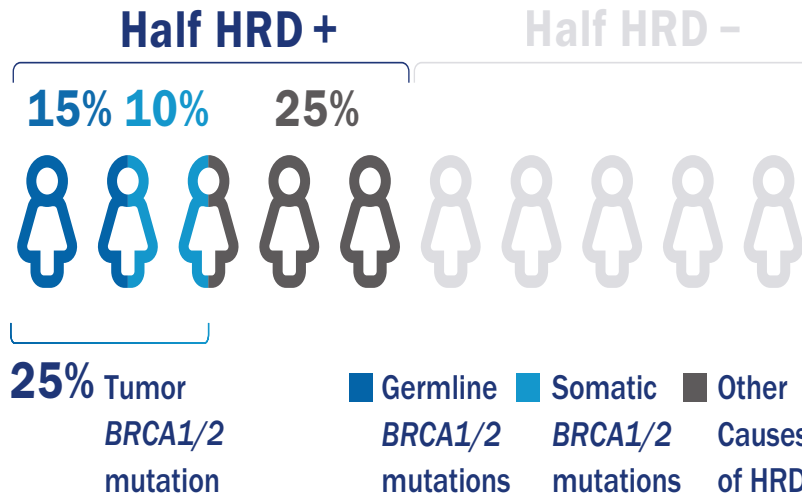
Hereditary cancer 48 gene panel

Genes	Breast	Ovarian	Colorectal	Uterine	Skin	Pancreatic	Gastric	Prostate	Renal	Lung	Endocrine	Other
BRCA1	●	●				●		●				
BRCA2	●	●			●	●		●				
MLH1, MSH2, MSH6, PMS2, EPCAM		●	●	●	●	●	●	●				●
CTNNA1							●					
APC			●				●				●	●
MUTYH (Monoallelic)											●	
MUTYH (Biallelic)			●									●
CDKN2A (p16INK4a), CDKN2A (p14ARF)					●	●						
CDK4					●	●						
TP53	●		●	●	●	●	●	●	●			●
PTEN	●		●	●	●		●		●		●	●
STK11	●	●	●	●		●	●			●		●
CDH1	●						●					
PALB2	●	●				●						
ATM	●					●		●				
CHEK2, CHEK2 (Biallelic)	●		●									
RAD51C, RAD51D	●	●										
BARD1	●											
BRIP1		●										
BMPR1A, SMAD4			●				●					●
VHL									●		●	●
RET											●	●
MEN1											●	●
BAP1					●				●		●	●
TSC1, TSC2									●			●
FH, FLCN									●			●
TERT					●							●
MITF					●							
MET									●			
SDHA, SDHB, SDHC, SDHD									●		●	●
POLD1, POLE, GREM1, AXIN2			●									
NTHL1 Monoallelic												
NTHL1 Biallelic	●		●	●								●
MSH3 Monoallelic												
MSH3 Biallelic			●									
HOXB13								●				
EGFR										●		

# Genetic Cancer Tests

## Mychoice\_HRD

- Myriad myChoice HRD 는 난소암 환자에 대한 표적 치료제인 PARP inhibitor 사용과 관련된 상동 재조합 결핍 (Homologous Recombination Deficiency) 상태를 결정하는 동반진단 검사 (IVD-CDx)
- Next Generation Sequencing 분석법 이용
- SNV, Indel, Rearrangement 분석을 통해 BRCA1/2 유전자의 돌연변이 유무와 유전적 불안정성 상태 (GIS) 를 판단



**1** **BRCA1 & BRCA2 status** | **Sequence variants** + **Large rearrangements**

- Detection and classification of sequence variants and large rearrangements
- Identification of somatic and germline variants present in the tumor

**2** **Genomic instability status** | **LOH** (Loss of heterozygosity) + **TAI** (Telomeric allelic imbalance) + **LST** (Large-scale state transitions)

- Comprehensive assessment of LOH, TAI and LST across the entire genome

# Comprehensive Genomic Profiling

## Solid Tumor + Normal Test

### 특징

- DNA 시퀀싱을 통해 돌연변이에 초점을 맞춘 648개 유전자 패널 (500x 적용 범위)
- 종양 + 정상 매칭 (혈액 또는 타액); 46개의 incidental germline 소견 포함
- MSI 상태 및 Tumor Mutation Burden (TMB) 분석
- IHC 염색을 통한 PD-L1 22C3, SP142, 28-8 clones 및 MMR 확인 (선택 사항)
- RNA 시퀀싱을 통한 전체 전사체 분석  
(NTRK 1, 2 및 3과 같은 관련 융합의 임상적으로 검증된 식별 포함)



TISSUE COLLECTION KIT

### 검체 타입

- 고형 종양 조직 (예: 폐, 결장, 유방, 췌장 등)
- 정상 (혈액 또는 타액)

## Tempus xT

- Solid tumor (고형 종양 조직)
- 648 genes : Rearrangements 22 genes, germline mutations 65 genes
- Targeted DNA sequencing 과 whole-transcriptome RNA sequencing  
동시 진행
- Tumor DNA coverage 500x
- Solid Tumor + Normal Test (종양+정상 일치) 분석 : Germline 변이 구분 확인
- Immue Biomarkers 유전자 검사 : MSI status, TMB
- Option 가능 : dMMR, PD-L1, Tumor origin, HRD, DPYD
- Report 와 Raw data 제공
- 조직 부족 시 Tempus xF 검사 (liquid sequencing) 로 자동 전환



BLOOD COLLECTION KIT

## Tempus xF

- Liquid biopsy (혈액 또는 타액)
- 105 genes : Rearrangements 7 genes, CNV 8 genes
- Targeted DNA sequencing
- DNA Sequencing Depth: average 20,000x (raw reads) / 5,000x (unique reads)
- Immue Biomarkers 유전자 검사 : MSI status
- Report 와 Raw data 제공

## Tempus xF+

- Liquid biopsy (혈액 또는 타액)
- 523 genes : Rearrangements 10 genes, CNV 9 genes
- Targeted DNA sequencing
- DNA Sequencing Depth: >5000 and >1500 unique reads for enhanced and additional regions
- Immue Biomarkers 유전자 검사 : MSI status, TMB
- Report 와 Raw data 제공

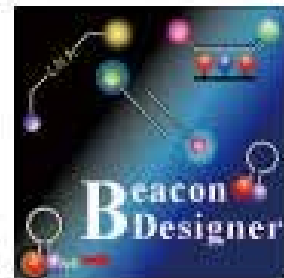
## qPCR Analysis Software

- Get the most out of your qPCR data with the market leading GenEx™ Enterprise software
- Basic data editing and management
- Advanced data analysis
- Webinar for Software



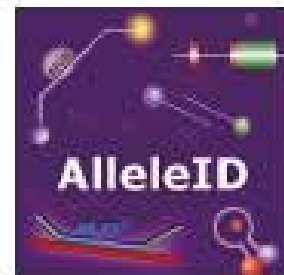
## Primer and Probe Design Software

- Automate Your Real Time PCR Primer and Probe Design
- Specific and Efficient Design :  
How Beacon Designer™ Makes it Possible?
- Design Options Available
  - SYBR Green Assay Design
  - HRMA Assay Design
- Dual Labeled Probe Design
  - TaqMan Probes
  - Molecular Beacons
  - Scorpions®
  - FRET Probes
- Multiplex Real Time PCR Assay Design

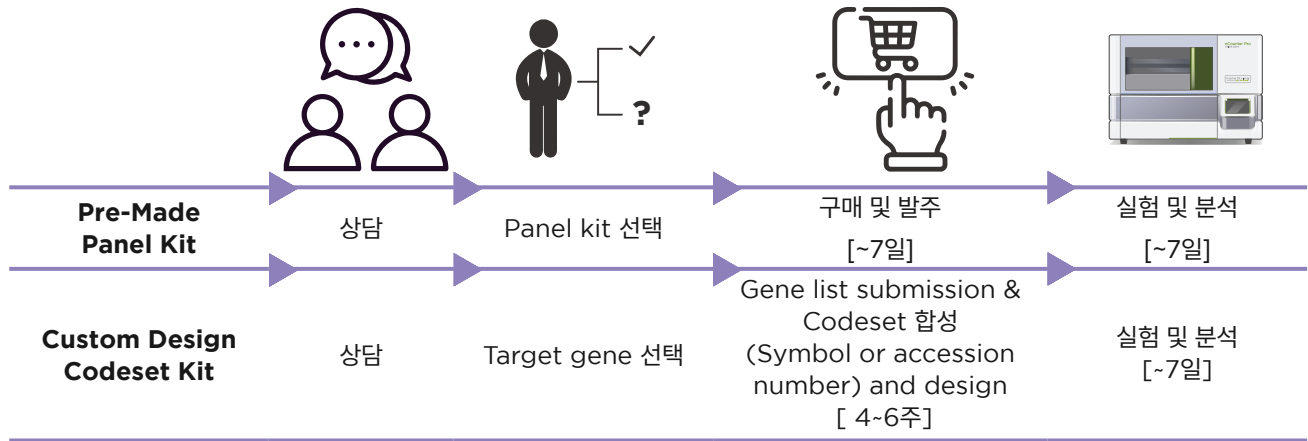


## Software for Bacterial Identification, Pathogen Detection or Species Identification

- Assay Design for Bacterial Identification and More..
- Species Identification Assays / Cross Species Assays /  
Allele Identification Assays
- Sophisticated Algorithms for Assay Success
- Extensive Support for Real Time or Quantitative PCR Assays &  
SNP / Expression Microarrays
- Design Luminex xMAP® Assays
- Multiplex Ligation-dependent Probe Amplification (MLPA)  
Assays for Copy Number and Mutation Detection



# 나노스트링 서비스



Sample type	
FFPE Tissue	Core needle biopsy
Fresh Frozen Tissue	Tissue Microarray (TMA)

# GeoMx™ DSP 실험 분석 서비스

RNA application	Protein application
<ul style="list-style-type: none"> <li>• 84 genes</li> <li>• CTA (Cancer Transcriptome Atlas) - 1,833 genes</li> <li>• WTA (Whole Transcriptome Atlas) &gt; 18,000 genes for human &gt; 21,000 genes for mouse</li> </ul>	<ul style="list-style-type: none"> <li>• Immuno-Oncology &gt;140 proteins</li> <li>• Neuroscience &gt; 140 proteins</li> </ul>



# qPCR 실험 대행 서비스

## RNA 추출

Real-time PCR을 위한 샘플의 RNA 추출을 의뢰하는 경우

## cDNA 합성

Real-time PCR을 위한 cDNA 합성을 의뢰하는 경우

## qPCR service

cDNA 상태로 실험 의뢰, SYBR Green 혹은 Probe를 사용하여 Real-time PCR 실험을 의뢰하는 경우

참고사항: 핵산(RNA/DNA) 추출방법, Primer / Probe sequence, Real-time PCR 조건은 유저가 제공하여야함

# 물질 상호작용 분석 서비스

상담 및 접수

계획서 작성

실험 실시  
~2일

실험 결과 처리  
~7일

분석 장비	Creoptix WAVEdelta (Molecular Interaction analyzer)
Sample type	Protein, 항체, Peptide, Chemicals, 천연물 등
분석방법	Multi-cycle Kinetics or waveRAPID Kinetics

# NEB STOCK 250 ITEMS

## Next day delivery service



B0363S	RNA Loading Dye (2x) – 4 x 1 ml	M0302L	T7 Endonuclease I – 1250 units
B1500S	Nuclease-free Water – 25 ml	M0302S	T7 Endonuclease I – 250 units
B1700S	LAMP Fluorescent Dye - 250 ul	M0303L	DNase I (RNase-free) – 5000 units
B6002S	NEBuffer™ r2.1 - 5 mls	M0303S	DNase I (RNase-free) – 1000 units
B6003S	NEBuffer™ r3.1 - 5 mls	M0305S	Endonuclease V – 250 units
B6004S	rCutSmart™ Buffer - 5 mls	M0314L	RNase Inhibitor, Murine – 15000 units
B7024S	Gel Loading Dye Purple (6X) – 4 ml	M0314S	RNase Inhibitor, Murine – 3000 units
B7025S	Gel Loading Dye, Purple (6X), no SDS – 4 ml	M0356S	RNA 5' Pyrophosphohydrolase (RppH) – 200 units
B7030S	NEBuffer™ Set (r1.1, r2.1, r3.1, rCutSmart™) 6 mls	M0366S	mRNA Cap2' -O-Methyltransferase - 2,000 units
B7703S	Blue Protein Loading Dye – 8 ml	M0367L	Blunt/TA Ligase Master Mix – 250 reactions
B9004S	ThermoPol® Reaction Buffer Pack – 6 ml (4 x 1.5 ml)	M0367S	Blunt/TA Ligase Master Mix – 50 reactions
B9200S	Recombinant Albumin, Molecular Biology Grade – 12 mg	M0371S	Shrimp Alkaline Phosphatase (rSAP) – 500 units
E0552S	Q5® Site-Directed Mutagenesis Kit (Without Competent Cells) – 10 reactions	M0373L	T4 RNA Ligase 2, truncated KQ – 10000 units
E1700L	WarmStart® LAMP Kit (DNA & RNA) – 500 reactions	M0374S	Bst 3.0 DNA Polymerase – 1600 units
E1700S	WarmStart® LAMP Kit (DNA & RNA) – 100 reactions	M0375L	SplintR® Ligase – 6250 units
E2040S	HiScribe™ T7 High Yield RNA Synthesis Kit – 50 reactions	M0380L	WarmStart® RTx Reverse Transcriptase – 250 reactions
E2050S	HiScribe™ T7 Quick High Yield RNA Synthesis Kit – 50 reactions	M0460T	T7 RNA Polymerase (High Concentration) – 50000 units
E2060S	HiScribe™ T7 ARCA mRNA Kit (with Tailing) – 20 reactions	M0491L	Q5® High-Fidelity DNA Polymerase – 500 units
E2080S	HiScribe™ T7 mRNA Kit with CleanCap® Reagent AG - 20 reactions	M0491S	Q5® High-Fidelity DNA Polymerase – 100 units
E2611L	Gibson Assembly® Master Mix – 50 reactions	M0492L	Q5® High-Fidelity 2X Master Mix – 500 reactions (50 µl vol)
E2611S	Gibson Assembly® Master Mix – 10 reactions	M0492S	Q5® High-Fidelity 2X Master Mix – 100 reactions (50 µl vol)
E2621L	NEBuilder® HiFi DNA Assembly Master Mix – 50 reactions	M0493L	Q5® Hot Start High-Fidelity DNA Polymerase – 500 units
E2621S	NEBuilder® HiFi DNA Assembly Master Mix – 10 reactions	M0494L	Q5® Hot Start High-Fidelity 2X Master Mix – 500 rxn (10 x 1.25 ml)
E2621X	NEBuilder® HiFi DNA Assembly Master Mix – 250 reactions	M0494S	Q5® Hot Start High-Fidelity 2X Master Mix – 100 rxn (2 x 1.25 ml)
E3005L	Luna® Universal One-Step RT-qPCR Kit – 500 reactions	M0523S	Thermostable RNase H – 250 units
E3010L	LunaScript RT SuperMix Kit – 100 reactions	M0525L	Quick CIP – 5000 units
E3321S	EnGen® Mutation Detection Kit – 25 reactions	M0525S	Quick CIP – 1000 units
E5315S	OneTaq® One-Step RT-PCR Kit – 30 reactions	M0530L	Phusion® High-Fidelity DNA Polymerase – 500 units
E6056L	NEBNext® Quick Ligation™ Module – 100 reactions	M0530S	Phusion® High-Fidelity DNA Polymerase – 100 units
E6056S	NEBNext® Quick Ligation™ Module – 20 reactions	M0531S	Phusion® High-Fidelity PCR Master Mix with HF Buffer – 100 reactions (50 µl vol)
E6800S	PURExpress® In Vitro Protein Synthesis Kit – 10 reactions	M0537S	Bst 2.0 DNA Polymerase – 1600 units
E7490L	NEBNext® Poly(A) mRNA Magnetic Isolation Module – 96 reactions	M0538L	Bst 2.0 WarmStart® DNA Polymerase – 8000 units
E7546L	NEBNext® Ultra™ II End Repair/dA-Tailing Module – 96 reactions	M0541L	NEBNext® High-Fidelity 2X PCR Master Mix – 250 reactions
E7546S	NEBNext® Ultra™ II End Repair/dA-Tailing Module – 24 reactions	M0544L	NEBNext® Ultra™ II Q5® Master Mix – 250 reactions
E7600S	NEBNext® Multiplex Oligos for Illumina® (Dual Index Primers Set 1) – 96 reactions	M0544S	NEBNext® Ultra™ II Q5® Master Mix – 50 reactions
E7730L	NEBNext® Multiplex Oligos for Illumina® (Index Primers Set 4) – 96 reactions	M0554S	KLD Enzyme Mix – 25 reactions
E7780S	NEBNext Multiplex Oligos for Illumina (Dual Index Primers Set 2) – 96 reactions	M0608S	mRNA Decapping Enzyme – 2000 units
M0201L	T4 Polynucleotide Kinase – 2500 units	M0653S	EnGen Lba Cas12a (Cpf1) – 70 pmol
M0201S	T4 Polynucleotide Kinase – 500 units	M0653T	EnGen Lba Cas12a (Cpf1) – 2000 pmol
M0202L	T4 DNA Ligase – 100000 units	M0663S	T5 Exonuclease – 1000 units
M0202M	T4 DNA Ligase – 100000 units	M0665S	Tth Argonaute (TtAgo) – 50 pmol
M0202S	T4 DNA Ligase – 20000 units	M2080S	Vaccinia Capping System – 400 units
M0202T	T4 DNA Ligase – 20000 units	M2200L	Quick Ligation™ Kit – 150 reactions
M0203L	T4 DNA Polymerase – 750 units	M2200S	Quick Ligation™ Kit – 30 reactions
M0203S	T4 DNA Polymerase – 150 units	M2401S	ET SSB – 50 µg
M0204L	T4 RNA Ligase 1 (ssRNA Ligase) – 5000 units	M2403L	Pyrophosphatase, inorganic (yeast) – 50 units
M0204S	T4 RNA Ligase 1 (ssRNA Ligase) – 1000 units	M3003X	Luna® Universal qPCR Master Mix – 1000 rxn (10 x 1 ml)
M0208L	Taq DNA Ligase – 10000 units	M5505L	USER® Enzyme – 250 units



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