BioOptic Inc.

Innovation Revolution

Products Catalog Ver. 2019

Improve Your Workflow with BiOptic's Products

1 Sample preparation

Q-Dip
(Nucleotide Capturing)

2 PCR amplification

PCR reagents

DirectGO™ PreMix

AccuGO™ Pfu

ExpressGO™ PreMix

+

Qamp mini

3 *Qsep* Series Bio-Fragment Analyzer

Gel-Cartridge + *Qsep1* *Qsep100* *Qsep400*

4 Analysis

Q-Analyzer Software

Content

BiOptic Inc.

Innovation Revolution

About Us

BiOptic Inc. is a biotechnology instrumentation company that develops innovative scientific products for research and clinical applications. The company was founded in 2004, with a vision of establishing high-quality, value-added and customer-driven OEM/ODM solutions by developing and manufacturing products of Capillary Gel Electrophoresis (CGE) for biotechnology laboratories all over the world.

In 2009 BiOptic started research and development of an innovative Capillary Gel Electrophoresis instrument utilizing disposable pen-shaped gel-cartridges. The first patented CGE-based Fragment Analyzer *Qsep100*™ was launched in 2011 at the Lab Automation Conference in Palm Springs, CA.

For the past 7 years BiOptic has expanded its portfolio of products by developing and introducing several CGE instruments: the *Qsep1*™, the Gly-Q™, the *Qsep400*™, and most recently, the mini-PCR machine, *Qamp mini*™, that incorporates newly launched innovative Direct-PCR reagent kits and *Qexp* test kits.

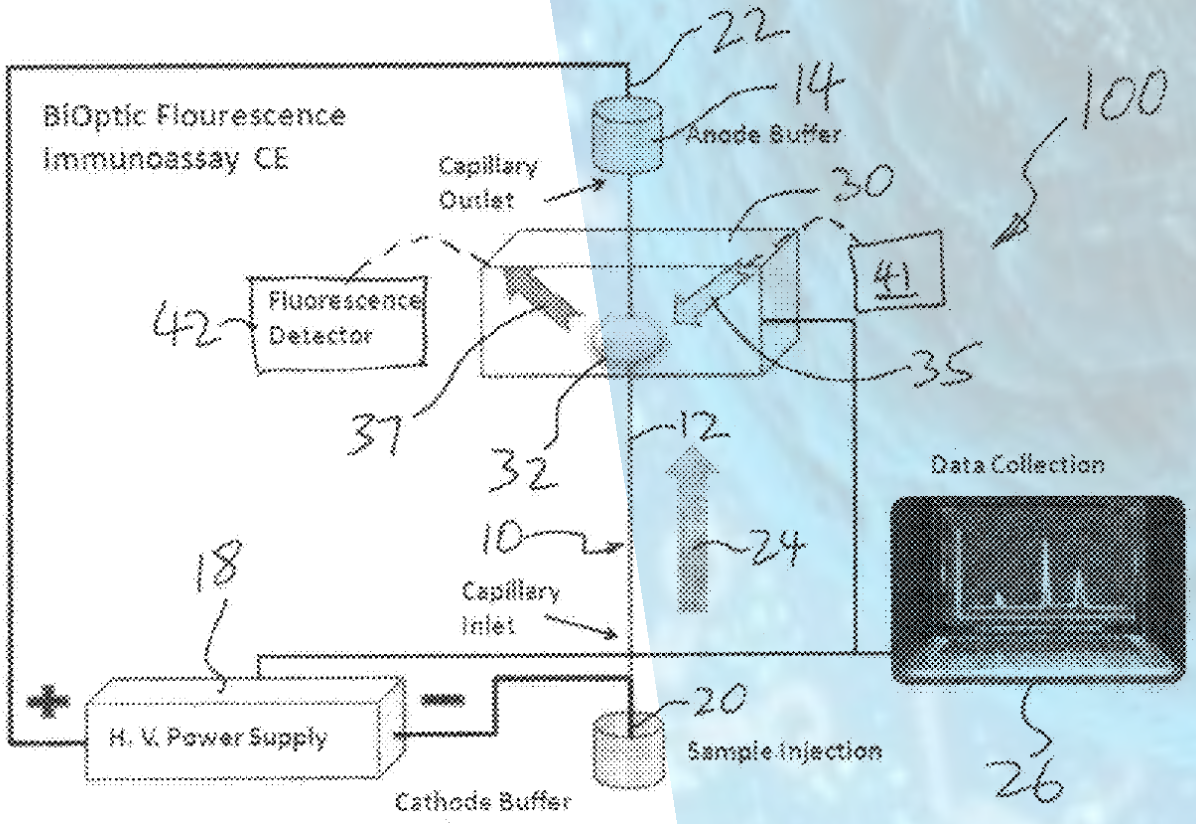
BiOptic strives to be the leader in the biotechnology industry by providing, easy-to-use and cost-effective CGE-based instruments and to provide innovative technical solutions for the world's top institutions, government and corporate laboratories.

With R&D, Manufacturing and Sales force located in Taiwan, and support operations in the US and China, BiOptic supports customers in over 20 Countries. Our team, with over 40 years of experience in the CE industry, is recognized by our customers for our advanced instrumentation, superior customer service, scientific application support, and a very knowledgeable technical sales force. With a company-wide commitment to quality and value, we serve professionals and laboratories dedicated to life science research, clinical diagnostics, pharmaceutical and food industries, animal husbandry and agriculture, performing diagnostic molecular genetic analyses.

Innovation & Revolution

Capillary electrophoresis is a very fast and accurate analytical tool. However, the complexity in operation and the cost of equipment and related consumables limit the applications in analysis and inspection. BiOptic Inc. simplifies the cumbersome analysis process with the *Qsep* family of products with its core competencies and innovative technologies, making molecular biology operations and analysis no longer an expensive and difficult task.

With our innovative capabilities, many of our research and development results have been patented in the United States, the European Union, China, Japan, South Korea and other countries. The recognition of ISO13485 and GMP is an affirmation of our quality and system. We believe that these BiOptic products can bring revolutionary development and progress to life science research, clinical medical diagnostics, pharmaceuticals, food industry, animal husbandry, agriculture and environmental monitoring.



Patent No.: US 8,784,626 B2

Qsep Series

Bio-Fragment Analyzers

Qsep series Bio-Fragment Analyzers are based on capillary electrophoresis, using a unique composition of gel molecules in the capillary to form a special structure for achieving the separation and analysis of biomolecule fragments. The *Qsep* series bio-fragment analyzers can analyze DNA, RNA, Protein and Glycan separately through a variety of different formulas of disposable pen-shaped capillary gel cartridges via *Q*-Analyzer-operation and database software.

☑ Few Steps To Run Your Tests

Qsep series Bio-Fragment Analyzers provide accurate results in three sample steps. Step 1, insert the suitable, disposable pen-shaped gel cartridge into the analyzer. Step 2, place the samples in the sample tray. Step 3, choose the appropriate method and run. In just a few minutes, users can get reliable results in diverse formats, including peak and gel charts.

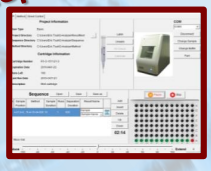
Step 1

Insert Gel-Cartridge

Step 2

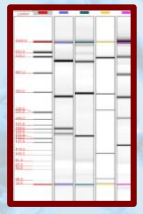
Place Samples

Step 3



Choose Method and Run

Results



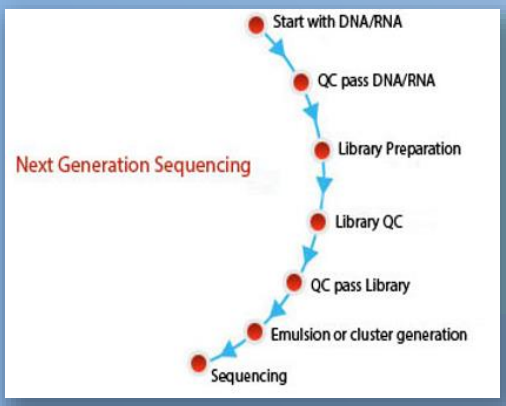
Display Results

Qsep1 *Qsep100* *Qsep400*

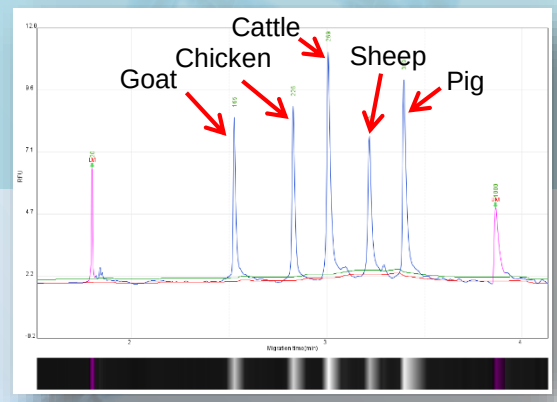
- ☑ Easy to Use
- ☑ Lower Cost
- ☑ High Sensitivity
- ☑ Sample Flexibility
- ☑ High Resolution
- ☑ Best Partner for NGS QC

Hot applications of *Qsep* Series

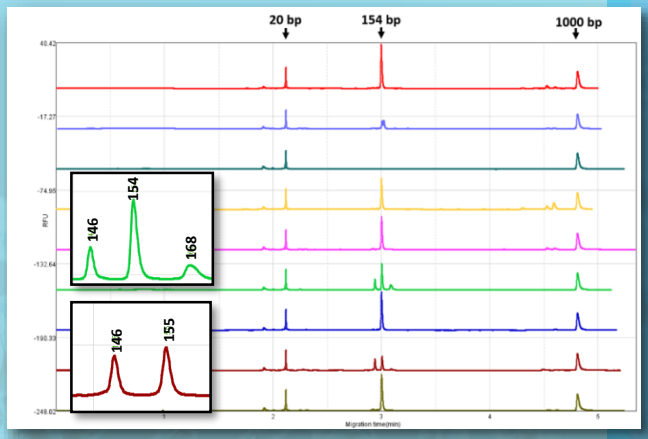
☑ NGS QC
gDNA/cfDNA/Sheared DNA/ RNA



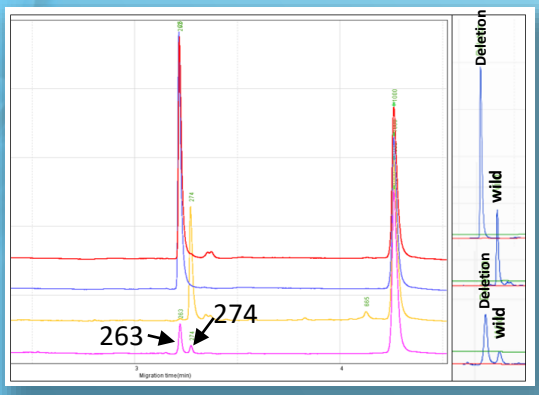
☑ Multiplex PCR
Ex. Meat Identification



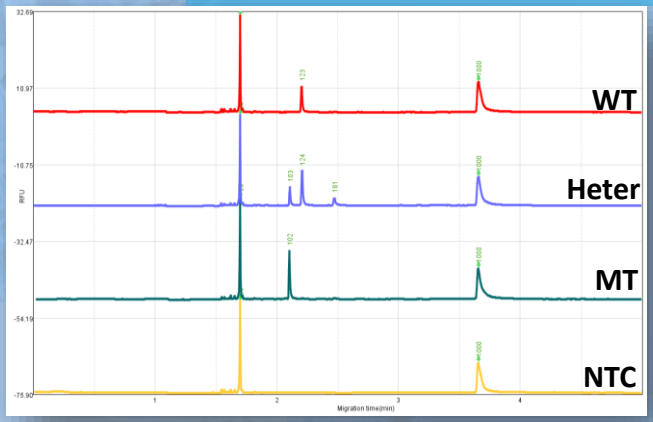
☑ STR
Ex. Identify 9 species of Torreya grandis



☑ CRISPR
Ex. gRNA/insertion/deletion



☑ SNP
Ex. ALDH2



Qsep1

Portable Capillary Electrophoresis

Qsep1™ is the only portable capillary electrophoresis system available in the world, that could be applied for research laboratories, clinical laboratories, farms and fields. The *Qsep1* is approximately 24x 21x 30 cm in size and has a maximum sample capacity of 8 samples. This compact, lightweight instrument helps researchers turn molecular biology into "mobile" molecular biology.

Specifications

- Detection: Fluorescence
- Light Source: LED
- Separation Voltage: 1-8KV
- Connectivity: Wi-Fi remote control
- Power Source: DC 12V (110-240V)
- System Weight: 5.5 kg
- Instrument Volume: 24 x 21 x 30 cm

Qsep100

Bio-Fragment Analyzer

Specifications

- Detection: Fluorescence
- Light Source: LED
- Separation Voltage: 1-15KV
- Connectivity: USB
- Power Source: AC 100-240V
- Maximum Power: 30W
- System Weight: 15 kg
- Dimensions: 38 x 30 x 40 cm

Qsep100™ is the most versatile instrument of the *Qsep* Series Bio-Fragment Analyzers. It provides consistent high precision analysis by using the same single channel cartridge as the *Qsep1*™. It provides flexible and high-throughput sample capacity from 1 to 96 samples. *Qsep1*™ is commonly used in general research laboratories. And it is also a good partner for the NGS QC laboratories. *Qsep100 Advance* system utilizes an alternative detection module providing the best solution for protein analysis.

	Qsep100	*Qsep100 Advance*
Light Source (Excitation)	Green Light (525nm)	Blue Light (480nm)
Fluorescence Detection	590nm~	530nm~
Sensitivity (S serials cartridge)	***Excellent***	Good
Sensitivity (N serials cartridge)	Good	Good
*Protein Labeling Dye	Chromeo-P503	Chromeo-P503/FITC ALEXA 488

Qsep400

High-Throughput (4-Channel) CGE System

Specification

- Detection: Fluorescence
- Light Source: LED
- Separation Voltage: 1~15 KV
- Connection: USB
- Power Source: AC 100-240V
- Maximum Power: 60W
- System Weight: 26 kg
- Dimension: 54 x 40 x 36cm

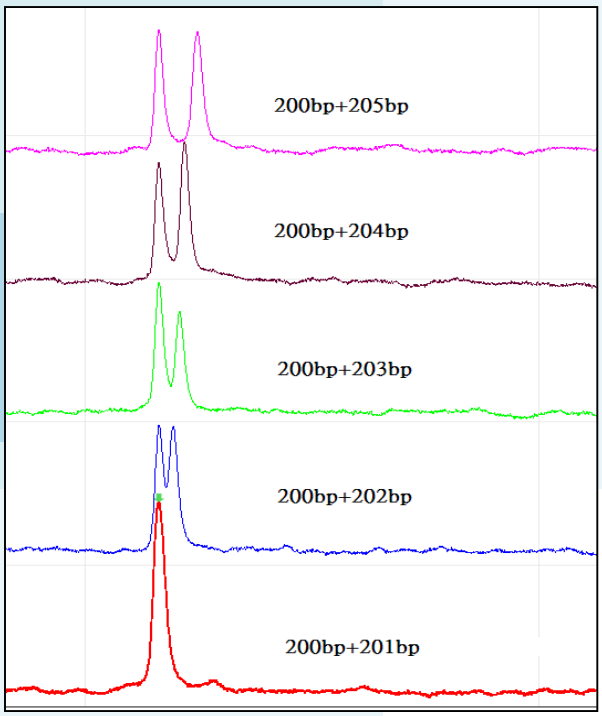
Qsep400™ is the highest throughput instrument of the *Qsep* Series Bio-Fragment Analyzer. It carries 4-channel cartridge chamber, which allows 4 samples to be analyzed simultaneously, effectively speeding up the analysis time by 4X (2~7 min/ 4 samples). With such high throughput, *Qsep400*™ is perfect for large capacity samples screening researches and clinical laboratories. *Qsep400*™ is equipped with an onboard Computer with a touchscreen Control Panel, which allows the end-user to operate the instrument and obtain professional report within one system.

Order information

Cartridges' name		Cat. No.
S1	Standard	C405101
S2	High Resolution	C405102
S3	Kilo Base	C405106
F3	Fast	C405103
N1	High Sensitivity	C405105
R1	RNA	C405110
P2	Protein (SDS)	C405121

Features

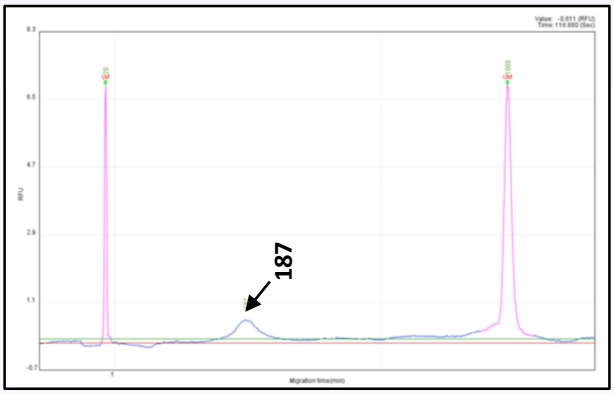
☑High Resolution



◄ **DNA sample can be separated in 2 bp difference**

The figure in left shows that the PCR products are designed for same sequence with 1 to 5 bp difference.

☑High Sensitivity

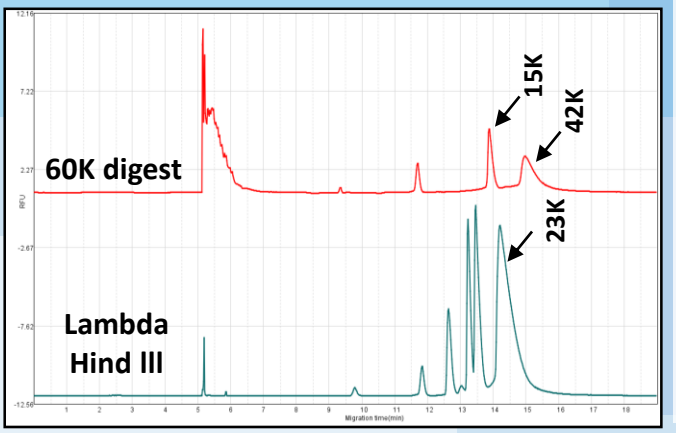


	Range (bp)	pg/µl	% total	pmol/L	Avg. size
cfDNA	100-300	4.03	71.80	33.27	184.28

▲ **cf/ctDNA (Cell-Free DNA)**

Levels of cf/ctDNA in individuals are generally low. The 5 pg/µl detection sensitivity of *Qsep* Series are good enough for detecting the limitation of cf/ctDNA. The figure above shows a sample with 4.03 pg/µl concentration (measured by Qubit-fluorometer), which has been detected by *Qsep100* with High Sensitivity (N1) Cartridge.

☑ Large Fragment



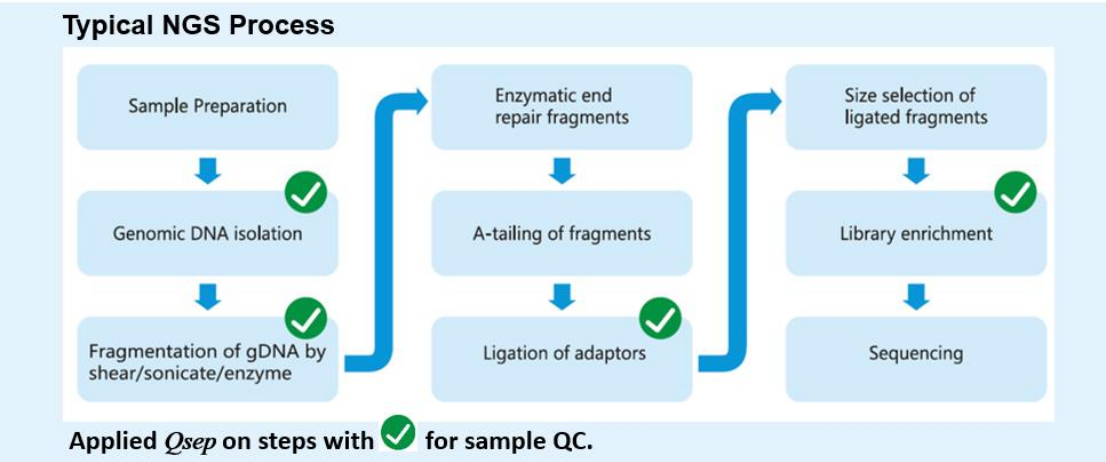
▲ **60K digested by Nco I and Lambda DNA digested by Hind III size marker**

The figure above shows that the 60K digested by Nco I and Lambda DNA is digested by Hind III and detected by *Qsep100* using S3 Cartridge.

Applications

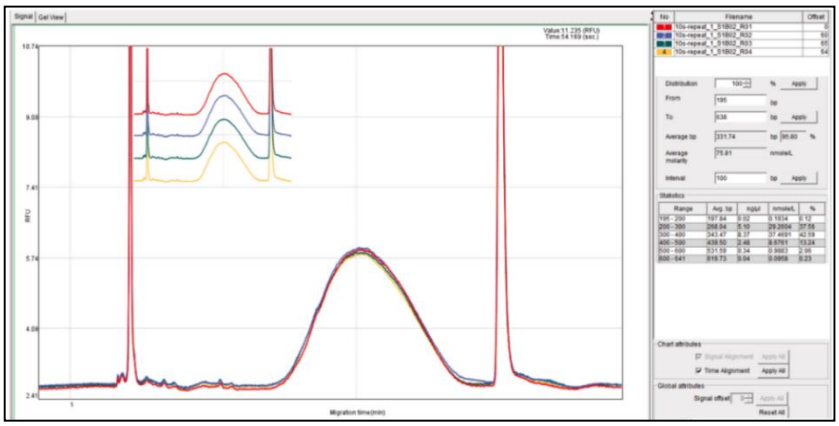
NGS Sample QC

As the throughput and cost of NGS (Next Generation Sequencing) continue to improve, sample preparation and testing is a vital part of the overall NGS process. Fast and accurate fragmentation of genomic DNA is a critical step in NGS technology, and the quality of these DNA fragments is a decisive factor in the quality of sequencing.



There are several checkpoints to ensure the quality of samples for NGS. The *Qsep* series automated bio-fragment analyzer provides good flexibility in throughput, (1~96 samples), being highly compatible with all NGS platforms.

► **The right figure shows the reproducibility of NGS sample QC**



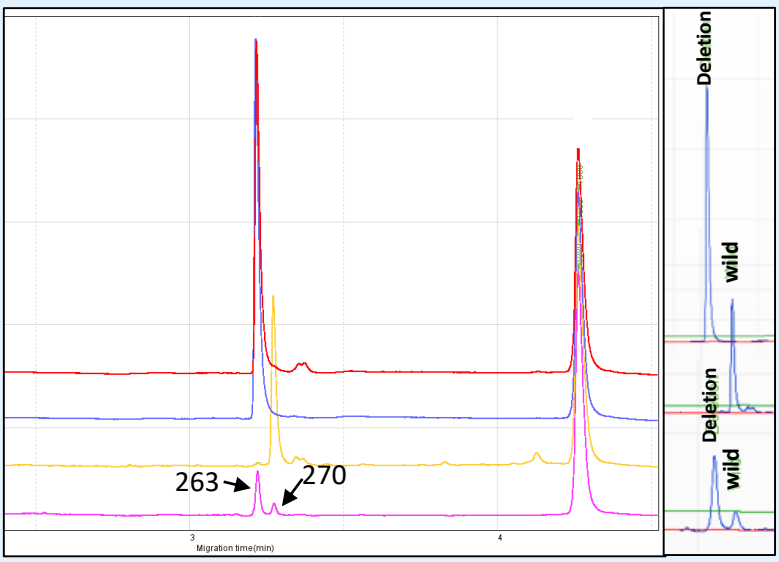
Benefit:

- Flexible throughput: 1-96 samples and up to 1 minute to complete sample electrophoresis.
- Fully automatic: Utilizing disposable Pen-shaped cartridge with automatic gel reloading function. No manual gel filling or capillary cleaning after each test
- High sensitivity: the lowest detectable concentration is pg/μl level.
- Powerful software: *Q*-Analyzer software provides the User Interface and Analysis that generates data of fragment size distribution and concentration.
- Cost efficient: Suitable for sample QC of all NGS platform or various sample types including Genomic DNA, cfDNA and RNA.

CRISPR/Cas9

CRISPR is a Genome Engineering technique that uses protein to interact with DNA. CRISPR typically uses a version of the Cas9 nuclease to cut double-stranded DNA at a specified point in the genome, after which the cell's endogenous machinery will repair the break. Under the right circumstances, the cell can be made to incorporate a donor DNA sequence into the break site, thus allowing for gene insertion, modification, or knocking out. CRISPR-Cas9 targets a specific genetic location determined by a homologous RNA (termed a guide RNA or gRNA). And unlike editing with TALENs (transcription activator-like effector nucleases) or ZFNs (zinc finger nucleases), using a gRNA means that no elaborate protein engineering is required to achieve sequence specificity, and is thus easier and faster.

CRISPR Results Validation



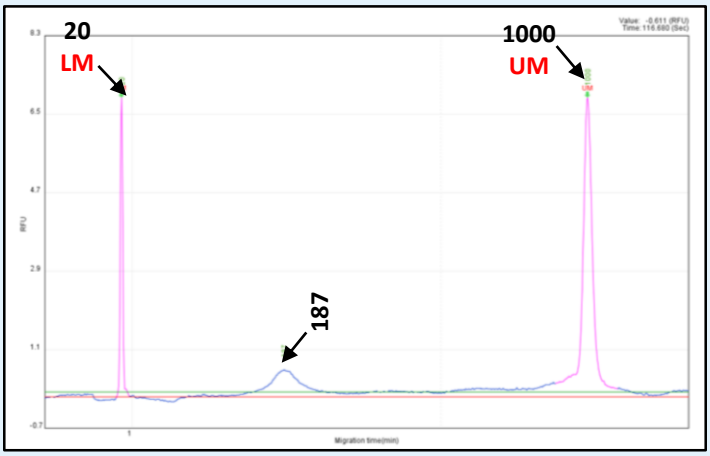
High Resolution application in CRISPR QC

- Heterozygous with difficulty to define by sequencing
- The figure in left shows about 7 bp gene fragment knock out

In CRISPR workflow, the most important key is the characterization of positive clones, while screening methods and reagent QC are often overlooked. To characterize the CRISPR modified lines requires Sanger sequencing or next-generation sequencing (NGS).

While sequencing is not efficient as a screening protocol due to the cost, resource requirements, and time. *Qsep* series automated bio-fragment analyzer provides high resolution detection in CRISPR QC application, which is importance to achieve successful results.

cf/ct DNA QC



	Range (bp)	pg/µl	% total	pmol/L	Avg. size
cfDNA	100-300	4.03	71.80	33.27	184.28

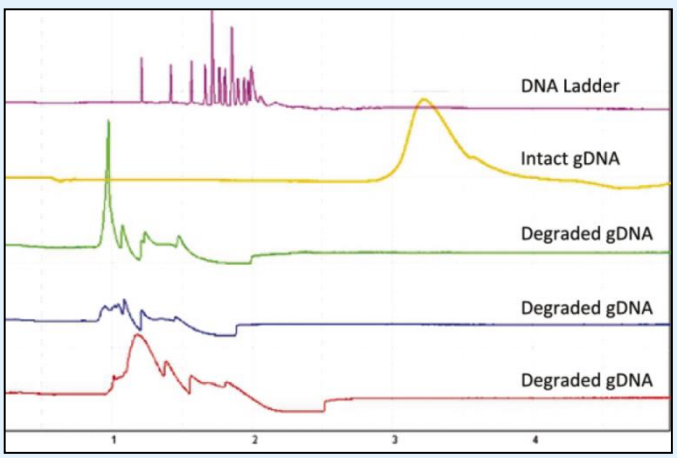
◄ cf/ctDNA (Cell-Free DNA)

Levels of cf/ctDNA in individuals are generally low. The 5 pg/µl detection sensitivity of *Qsep* Series are good enough for detecting the limitation of cf/ctDNA. The figure above shows a sample with 4.03 pg/µl concentration (measured by Qubit-fluorometer), which has been detected by *Qsep100* with High Sensitivity (N1) Cartridge.

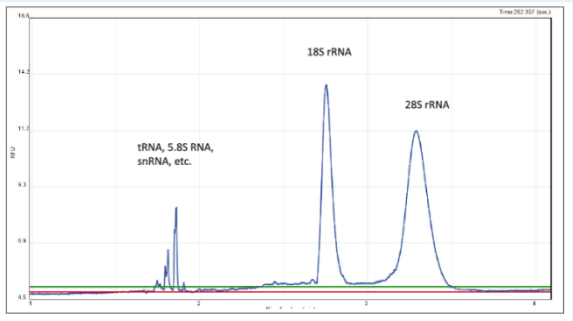
Genomic DNA QC

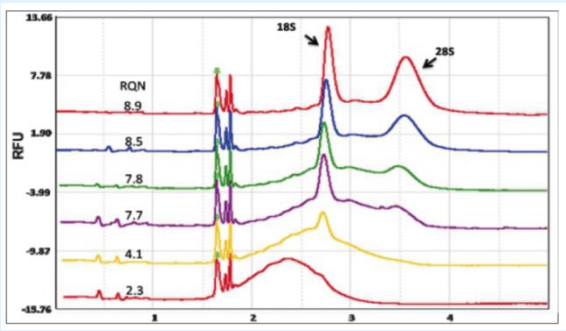
►Genomic DNA degradation analysis

Qsep series provides fast and accurate analysis of Genomic DNA for downstream experiments such as qPCR and sequencing. The example in right shows how the *Qsep* system can accurately analyze the degradation of Genomic DNA.



RNA QC



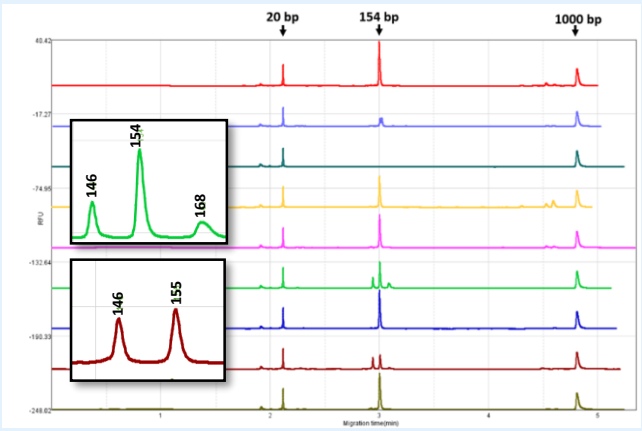


Degradation of RNA samples by RNase is a major cause of failure in following experiments. Thus, the RNA quality detection is important for the further experiments. The *Qsep* series bio-fragment analyzers come with *Q*-Analyzer software, which uses an RNA Quality Number (RQN) feature as a quality metric indicator. *Q*-Analyzer considers the entire electropherogram including fast region and the ratio of 28S and 18S when calculating the RQN. The right figure above indicates the *Qsep* series bio-fragment analyzers can easily detect even slight degradation.

SSR/Microsatellites

► **Using the first set of primers, three strains of the Torreya grandis were identified.**

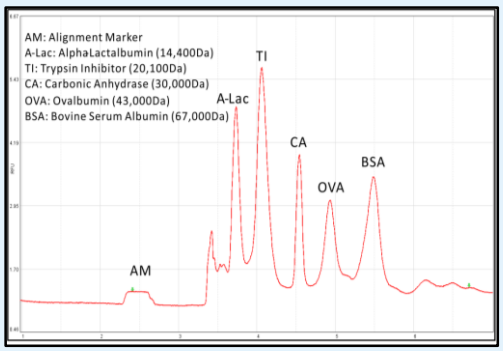
SSR/microsatellite markers library workflows can be improved by incorporating high-throughput, high-accuracy DNA fragment analysis strategies. The figure in right indicated that the bright green and the brown peaks represent the different strains of Torreya grandis than other peaks. Strains identification performed by using the S1 cartridge in *Qsep100* bio-fragment analyzers.



Protein Profiling

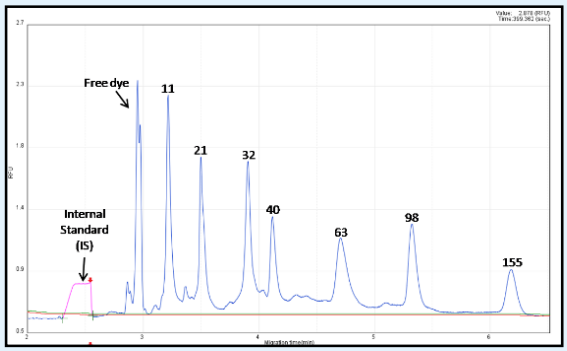
Sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) has been used for size-based separations of proteins for over four decades, and it is still the workhorse for protein separations and analyses in most biological research laboratories. However, the technique is time-consuming and labor-intensive. The many manual operations (e.g., gel preparation, sample loading, staining/de-staining, etc.) are believed to be sources of SDS-PAGE irreproducibilities.

The technology of *Qsep* Series are based on the SDS-capillary gel electrophoresis (SDS-CGE), also called capillary sieving electrophoresis (CSE) or capillary gel electrophoresis (CGE) shows many advantages over classical SDS-PAGE. These advantages include on-column detection, automated operation, great resolving power, and capability of accurate protein quantification and molecular weight determination.



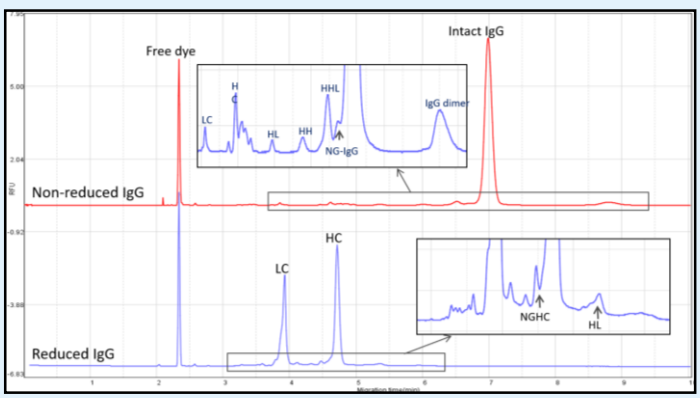
▲ **Protein Profiling**

With ready to use gel cartridge, users can set up the instrument in 1 minute, and get results within 3-7 minutes (96 - samples in ~ 1.5 hours). The data can also be generated in batch or individually with fully detailed information.
Before profiling, protein sample needs to be conjugated with the labeling dye and denatured.



▲ **Protein sizing coverage for P2 cartridge**

A protein size ladder (BenchMark™) containing 7 recombinant proteins of 11-155kDa was well separated in 8 minutes.

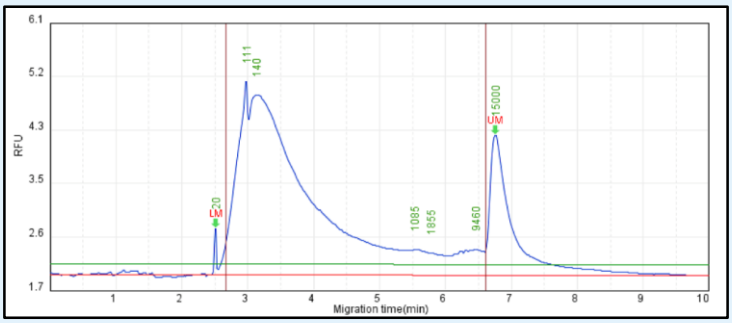


◄ **Quality control for impurity of IgG**

The time course test for IgG reduction with β-ME. As reaction time increased, the peaks of 6 IgG fragments were subsequently observed, and finally reduced to a heavy chain and light chain. Peak 1: Light chain (LC); 2: Heavy chain (HC); 3: 1 heavy 1 light chain (HL); 4: 2 heavy chain (HH); 5: 2 heavy 1 light chain (HHL); 6: Intact IgG (2H2L); NG-IgG: Non-glycosylated IgG.

Chromatin immunoprecipitation (ChIP)

Chromatin immunoprecipitation (ChIP) refers to a procedure used to investigate the interaction between proteins and DNA in the cell. By the principle of the reaction in antibody and antigens, the intracellular proteins and genome can be faithfully presented. Generally, the processes of ChIP is complex, which include cell fixation, shear DNA strands by sonicating or enzyme digestion, add bead-attached antibodies to immunoprecipitated target protein, and purify DNA. Thus, there are related quality control steps for each process. For instance the sheared DNA strands for the cleavage fragment has to be about 400-600bp. If the fragment is too large, the target protein cannot be precipitated. Conversely, the excessively fragmented fragments are useless for subsequent DNA identification. Therefore, the level of fragmentation is very important. Currently, most tests are performed by using Agarose gel, but the results usually show smear and the exact size information or the related ratio are unknown. Notably. *Qsep* Series Bio-Fragment Analyzer could provide the detail information of the size and ratio of the fragmented DNA for the further experiments.



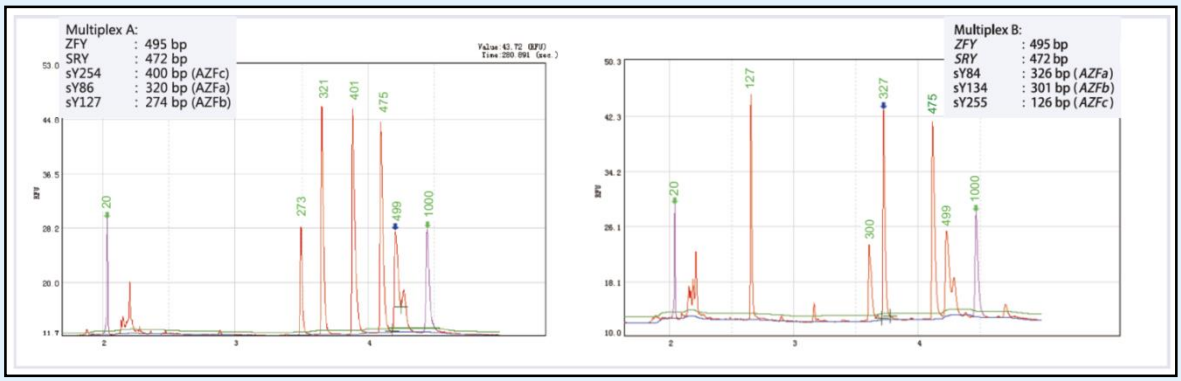
Range	Avg Bp.	ng/μl	nmole / L	percent
50.05 - 100.00	70	NaN	NaN	9%
100.00 - 200.00	144	7.92	84.51	35%
200.00 - 300.00	241	4.65	29.69	24%
300.00 - 400.00	343	1.84	8.24	11%
400.00 - 500.00	446	0.75	2.59	4%
500.00 - 600.00	542	0.32	0.92	3%
600.00 - 700.00	648	0.29	0.68	2%
700.00 - 800.00	749	0.10	0.21	1%
800.00 - 900.00	849	0.13	0.23	1%
900.00 - 1000.00	949	0.06	0.09	0%
1000.00 - 1100.00	1050	0.05	0.07	0%

▲ Chromatin detection using the 20bp & 15Kbp Alignment Marker

The figure in right is about the ultrasonic fragmentation of the nucleosome. Each nucleosome consists approximately 146 bp DNA and 8 histones. The analyzed result shows that the content of 100-200 bp is about 35%, and the average fragment size is 144 bp.

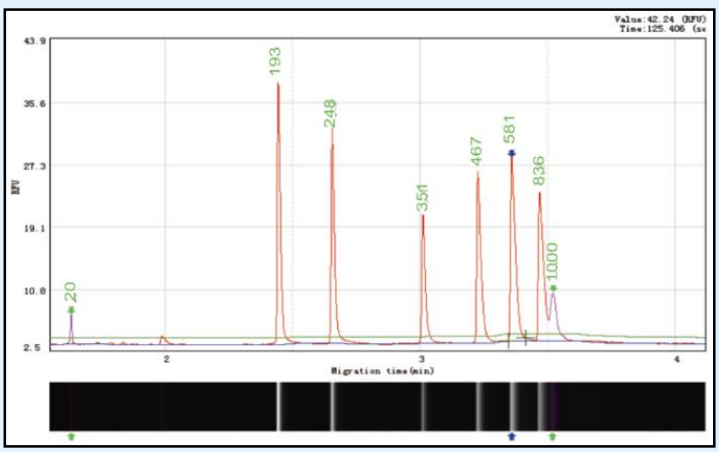
Y chromosome microdeletion_AZF Deletion

Y chromosome microdeletion (YCM) symptom is often present in a number of men with reduced fertility. Spermatogenesis, which is an essential reproductive process, is regulated by many Y chromosome specific gene. Most of these genes located in a specific region known as the azoospermia factor region (AZF) in the long arm of the human Y chromosome. The major cause of male infertility is the AZF microdeletions, which is the most frequent structural chromosomal abnormalities. AZF could be further divided into three subregions: AZFa, AZFb and AZFc. Specific sequence-tagged site (STS) could be used to identify these regions. *Qsep* series bio-fragment analyzers, which are based on electrophoresis, offer exciting options for detecting Y chromosome microdeletions rapidly and sensitively.



▲ ZFX/Y and SRY are the internal control. Specific sequence-tagged site (STS) is detected by *Qsep100* and the result shows that the AZFc has been microdeleted.

Viral Pathogen Identification



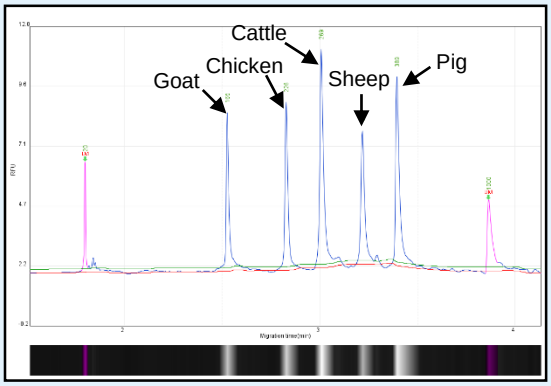
Virus	Expect size
Enterovirus	194bp
Influenzavirus 4	249bp
Metapneumovirus	351bp
Influenzavirus b	465bp
Bocavirus 1/2/3/4	579bp

Each viral species has unique infectious, transport, and persistence characteristics, which specially relys on different clinical treatment to cure. Thus, the identification of viral pathogen species is very important.

Meat species identification

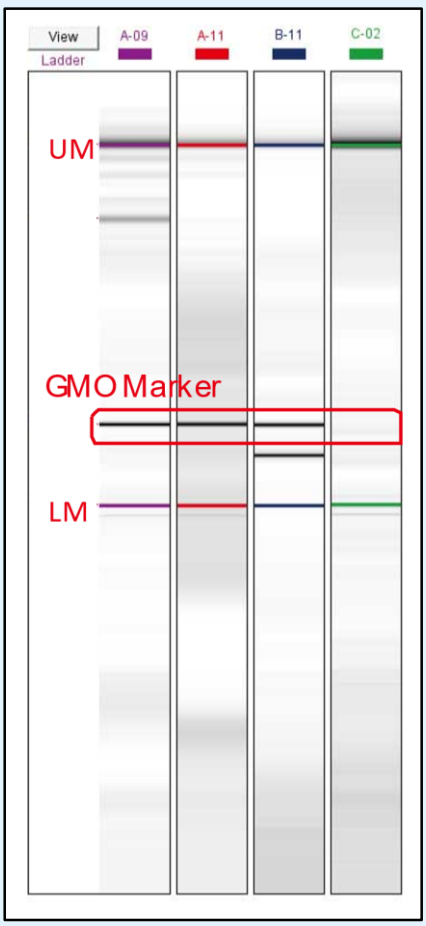
►Meat species identification

The origin of animal species identification in meat and meat products is a matter of great concerns such as religious, economical, legal as well as medical aspects. Utilizing regular PCR followed by *Qsep* Series analysis is the most cost effective and fastest option in DNA-based methods.

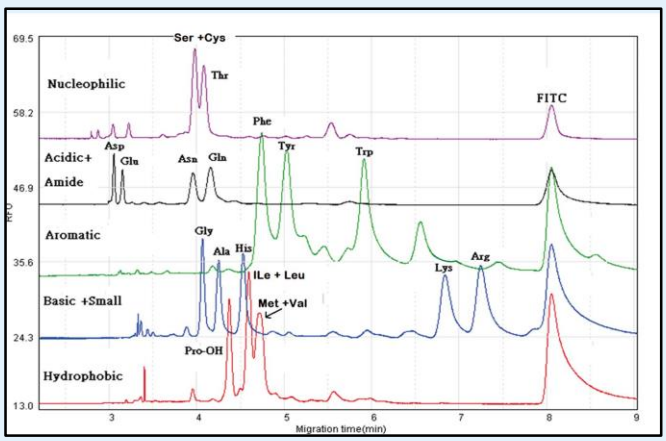


The figure is the test result by *Qsep* with S1 cartridge (High Resolution Cartridge) showing the detection result of meat mixture (including Cattle, Pig, Chicken, Sheep and Goat) after multiplex PCR.

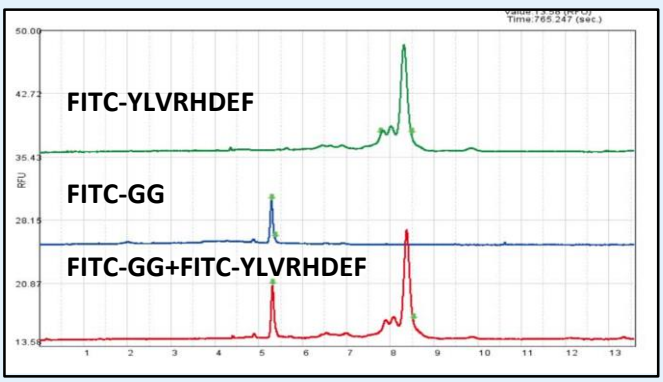
Other Applications



▲ GMO sample test (Soy Bean)



▲ FITC-amino acids (*Qsep100 Advance*)



▲ FITC-Oligopeptides (*Qsep100 Advance*)

Qsep Series

Bio-Fragment analyzer

Qsep1

Qsep100

Qsep100 Advance

Qsep400

Specification

Detection	Fluorescence	Fluorescence	Fluorescence	Fluorescence
Light Source	LED	LED	LED	LED
Separation Voltage	1~8 KV	1~15 KV	1~15 KV	1~15 KV
Connection	Wi-Fi	USB	USB	USB
Power Source	AC 100-240V	AC 100-240V	AC 100-240V	AC 100-240V
Maximum Power	30W	30W	30W	60W
System Weight	5.5 kgs	15 kgs	15 kgs	26 kgs
Dimension	24x21x30cm	38x30x40cm	38x30x40cm	54x40x36cm

Highlights

System Type	1 Channel Portable System	1 Channel Standard System	4-Channel System
Automated Sampling	1~10 samples	1~96 samples	1~96 samples
Disposable Gel-Cartridge (100 to 300 sample capacity without gel preparation)	Single Channel: S1, S2, S3, N1,R1, P2	Single Channel: S1, S2, S3, F3, N1,R1,P2	Four Channel: S1, S2, N1, R1
Rapid Analysis	2~7 min/sample	2~7 min/sample	2~7 min/4 samples
Resolution	1~4bp (Between 100~500bp)	1~4bp (Between 100~500bp)	1~4bp (Between 100~500bp)
Sensitivity	5pg/μl	5pg/μl	5pg/μl
Minimum Sample Volume	1μl (Micro-Vial:C104250) 20μl (standard PCR tube)	1μl (Micro-Vial:C104250) 20μl (standard PCR tube)	1μl (Micro-Vial:C104250) 20μl (standard PCR tube)
Sample Consumption	≤1pl	≤1pl	≤1pl

Cartridge Table

Application

Cartridges' name & Highlights	S2	S1	S3	F3	N1	R1	P2
	Standard	High Resolution	Kilo Base	Fast	High Sensitivity	RNA	Protein (SDS)
PCR product screening	✔	✔		✔			
RFLP	✔	✔		✔			
SNP		✔					
Plasmid purification & Vector cloning analysis			✔				
Next Generation Sequencing (NGS) QC	✔	◆					
Genomic DNA analysis			✔				
Cell free DNA detection					✔		
RNA Analysis						✔	
Low concentration sample					✔		
CHRISPR QC & Analysis	✔	✔				✔	
Large size fragment analysis (≥5kb)			✔				
Replace SDS-PAGE							✔
IgG Purity Test							✔

◆ Long separation time

Specification

Cat. No.	C105201 (2 pcs) C105801 (8 pcs) **C405101****	C105202 (2 pcs) C105802 (8 pcs) **C405102****	C105206 (2 pcs) C105806 (8 pcs) **C405106****	C105203 (2 pcs) C105803 (8 pcs) **C405103****	C105105 (1 pc) C105205 (2 pcs) **C405105****	C105110 (1 pc) C105210 (2 pcs) C105810 (8 pcs) **C405110****	C105221 (2 pcs) **C405121****
	C105200 (S2x1,S1x1)						
Sample size range	10-5000 bp	10-5000 bp	10-23000 bp	10-5000 bp	10-5000 bp	N/A	14-150 kDa
L.O.D.	0.1 ng/μl*	0.1 ng/μl*	0.1 ng/μl*	0.1 ng/μl*	5 pg/μl*	5 ng/μl	0.5 ng/μl (BSA)
Best Resolution	4-10 bp	1-4 bp	10-50 bp	≧50 bp	≧10 bp	N/A	N/A
Analysis time (per sample)	2-3 mins	3-5 mins	5-8 mins	1-2 mins	2-3 mins	5-10 mins	6 mins (BSA) 10 mins (IgG)
Sample number (per cartridge)	200 runs **800 runs****	200 runs **800 runs****	200 runs **800 runs****	300 runs **1200 runs****	100 runs **400 runs****	100 runs **400 runs****	100 runs **400 runs****
Sample consumption (per run)	<0.1 μl	<0.1 μl	<0.1 μl	<0.1 μl	<0.1 μl	<0.1 μl	<0.1 μl
Recommended sample volume	20 μl 1 μl, when using micro vial (C104250)	20 μl 1 μl, when using micro vial (C104250)	20 μl 1 μl, when using micro vial (C104250)	20 μl 1 μl, when using micro vial (C104250)	20 μl	20 μl 1 μl, when using micro vial (C104250)	20 μl
Shelf life	6 months	6 months	6 months	4 months	3 months	4 months	3 months

◆* L.O.D. : 2pg/μl (If diluted with distilled water)

◆* Determined by utilizing the 15-622 DNA size marker-C109200, as sample

◆**** 4 channel cartridge for *Qsep400***

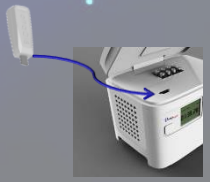
Qamp mini

Portable PCR Thermocycler

TOUCH START
One Button to Go!

COMPACT SIZE
10 x 13 x 10 cm

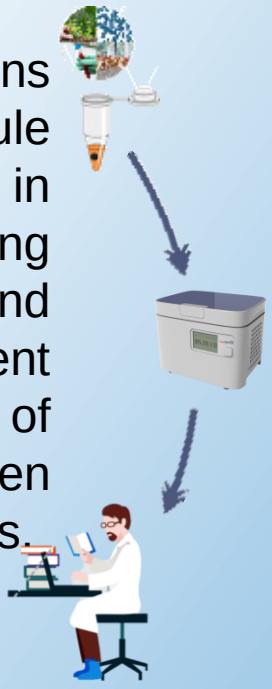
PORTABLE
Only 1kg



PROGRAM CHIP
Pre-programed chip for unlimited applications

HIGH UNIFORMITY
Low well-to-well variation

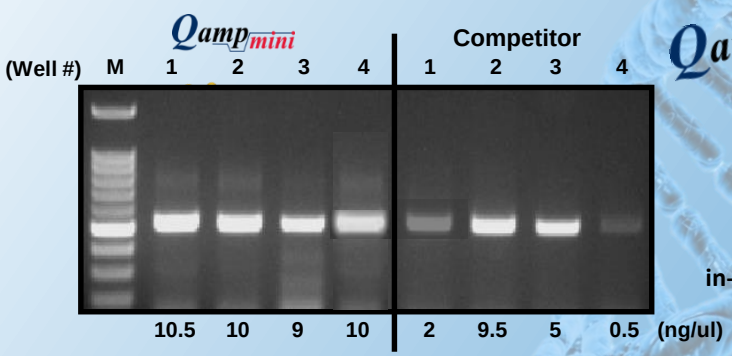
Qamp mini is a portable PCR thermocycler. It contains centrally positioned Peltier heating & cooling module for 1-8 samples. This design leads to accuracy in analysis and cost efficiency without sacrificing performance and quality. With the compact size and One-Click to Go design, Qamp mini is the ideal instrument for laboratories or classrooms and in the fields of epidemiology, veterinary, food testing, pathogen detection, ecology, archaeology research, and others.

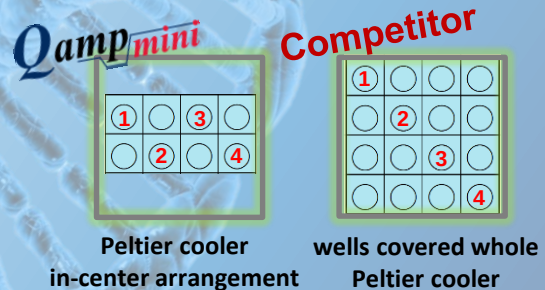


SPECIFICATION

Sample Number	8 (2x4 well)
Temperature Range	4℃ ~ 99℃
Max. Heating Rate (°C/sec.)	4.6℃
Max. Cooling Rate (°C/sec.)	3.4℃
Temperature Accuracy	± 0.4℃
Temperature Uniformity Across Block	± 0.4℃
Max No. of Cycle	unlimited
Max No. of Step	unlimited
User interface	LCD
Heated Lid	105℃ Fixed (pre-heat to 60℃)
Dimantion (L x W x H)	102 x 136 x 104 mm
Weight	1 kg
Power	VAC 100-240, 50/60 Hz, 120 W

PELTIER CENTER-MODULE FOR BETTER TEMPERATURE UNIFORMITY





Peltier cooler in-center arrangement

wells covered whole Peltier cooler

PCR Reagents

BiOptic Inc.'s advanced technology R&D has led to the invention of high-quality PCR reagents, including AccuGO™ Pfu DNA polymerase, the high-performance ExpressGO™ PreMix, and the most convenient DirectGo™ PreMix. With the launch of these best innovative high quality PCR reagents, the research centers and laboratories are able to get highly reproducible and satisfying results.

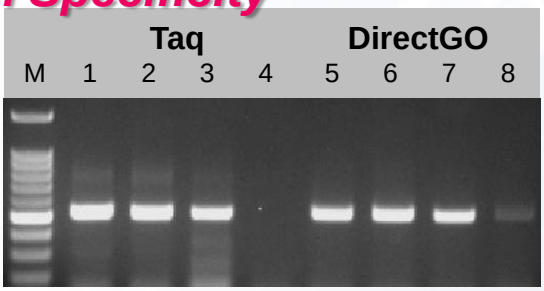
	Cat No.	Product	Size	Highlights
	C108200	DirectGO™ PreMix 2X Master Mix	100 reactions	• High speed: 15~30s/kb • High inhibitor resistance
	C108100	ExpressGO™ PreMix 2X Master Mix	100 reactions	• A ready-to-use reagent designed • Hot start enzyme design
	C108300	AccuGOTM Pfu proofreading DNA Polymerase *including 5X AccuGO Reaction Buffer	100U	• High fidelity products • High speed: 15~30s/kb

DirectGO™ PreMix

No DNA extraction! Just PCR!

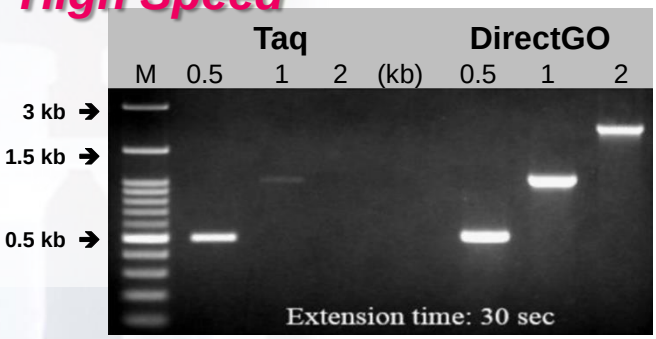
Makes PCR directly from ***blood, leaf, cell culture, and animal tissue*** possible! Simply apply one drop of blood or tiny amount of tissues with your primer and DirectGO™ PreMix 2X Master Mix, then the PCR is ready to go!

High Specificity



M : Marker
Lane 1, 5: Oral mucosa (Cotton Swab)
Lane 2, 6: Oral mucosa (Toothpick)
Lane 3, 7: Fingernail
Lane 4, 8: Hair

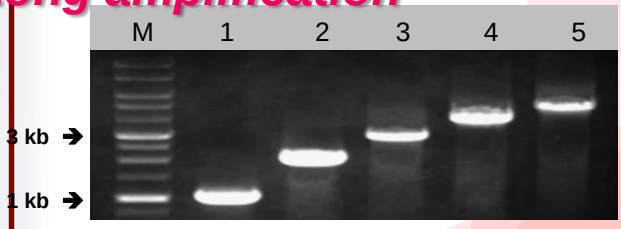
High Speed



Features

- High specificity: chemical-modified Taq with hot start design which can dramatically reduce non-specific amplification
- High speed extension rate: **15~30s/kb**
- High sensitivity: **10pg** human genomic DNA or **1mm diameter** plant leaf
- High inhibitor resistance: no need for DNA extraction, and allows for direct PCR amplification in present of 10% whole blood
- Easy to achieve PCR amplification **over 5kb DNA**
- **2X PreMix formulation** is easy for preparation and minimize the risk of contamination

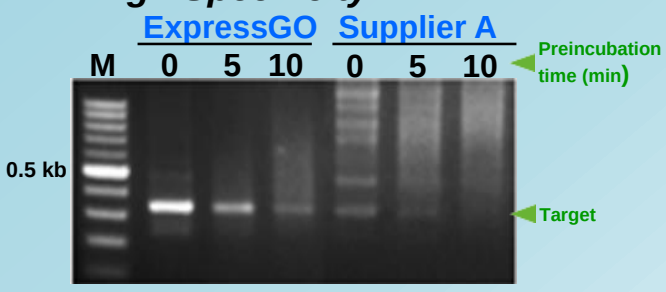
Long amplification



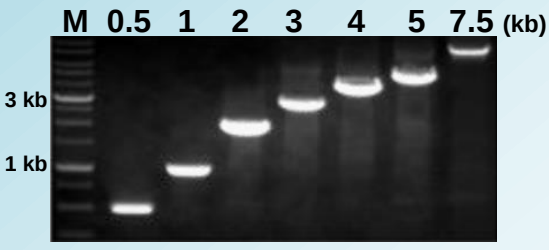
ExpressGO™ PreMix

ExpressGO™ PreMix 2X Master Mix is a ready-to-use reagent designed for a variety of standard PCR applications. This conventional kit allows user to easily set up PCR experiments in just few minutes and contains high performance Hot Start polymerase, which activates the enzyme activity after initial denaturation step of heating at 95℃. Therefore, there is no need to rush for PCR preparation in room temperature.

High Specificity



Long Amplification



Features

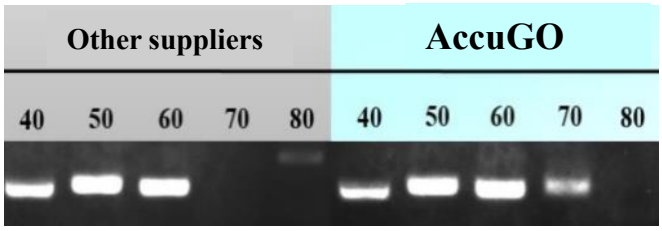
- Perfect design for a variety of standard PCR applications
- Specialized genetic engineered Taq DNA polymerase enhances the specificity and yield for amplicon
- Ready-to-use master mix simplifies PCR preparation and minimize the pipetting steps
- Hot Start enzyme design allow user to easily prepare experiments in room temperature, and eliminates nonspecific amplification
- Easy to achieve PCR amplification over 5kb DNA
- Best for high throughput colony PCR to screen desired DNA fragments: with “A” overhang at 3'- end for T/A. cloning use directly

AccuGO™ Pfu

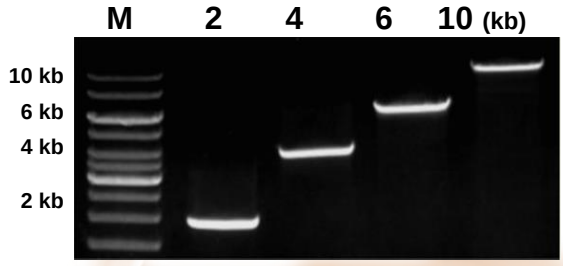
Proofreading DNA polymerase

AccuGO™ Pfu proofreading DNA polymerase is a high quality, high performance PCR proofreading kit. The new generation of Pfu enzyme is engineered to provide high efficiency, high accuracy and high yield PCR products for wide use in cloning, gene expression and sequencing…The AccouGO PCR Kit provides both short extension time and high specificity. High GC content template or fragments up to 10kb can also be produced with high yield.

High Efficiency



Long Amplification



Features

- Specialized engineered Pfu enzyme for high fidelity products
- Short extension time : 15-30s/ kb
- High yield PCR products: Compare with standard Taq kit
- High yield for long fragment PCR product: up to 10kb
- Good performance in GC rich template
- PCR product with blunt ends

Qexp Test Kits

Qexp-Vet Series

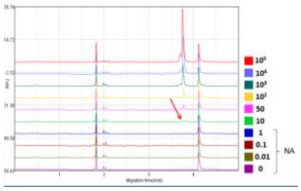
Qexp-Vet Canine respiratory pathogens kit

ONLY need 60 minutes

Sampling → PCR → *Qsep1* → Results

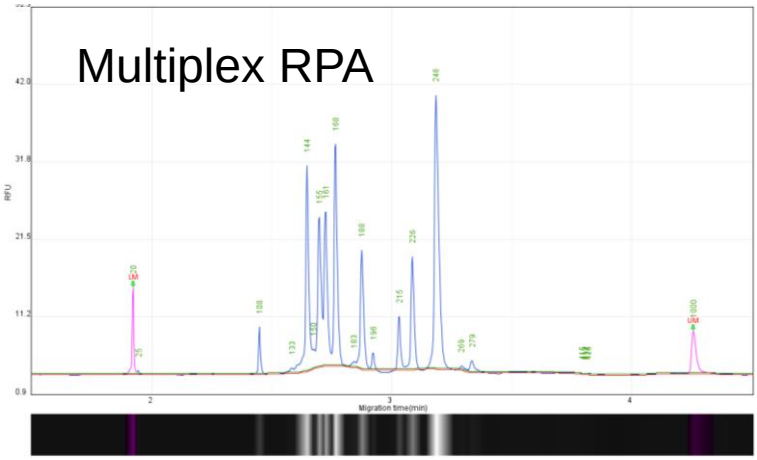
*Qamp*mini

Qsep1



Q-Analyzer

Qexp-Vet Canine blood pathogens kit



The detection process is less than 30 minutes by using *Qsep* system.

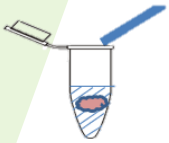
Name of pathogens	abbr.
Anaplasma platys	AP
Ehrlichia canis	EC
Babesia canis	BC
Babesia gibson	BG
Mycoplasma haemocanis/haemofelis	Mh
Candidatus Mycoplasma haemominutum/haenatioarvum	CMh
Babesia atovaquone-resistant gene (BG cytochrome b gene)	BGC

Coming Soon……

Qexp-FS Series

Qexp-FS Meat 5-species kit (goat, chicken, cattle, sheep, pig)

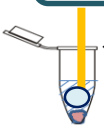
Digestion



500 µl Lysis Buffer + Meat

(Use plastic stick to extrude the Meat)

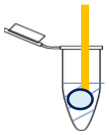
Extraction



✓ Submerge the **Q-Dip** in the meat extract

(wait for 1 minute)

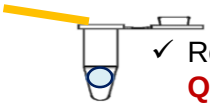
Washing



✓ Rinse the **Q-Dip** in the Wash Buffer (for 1 minute)

✓ Gently stir the filter several times

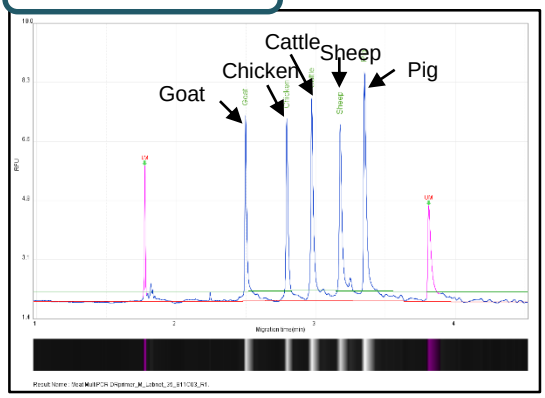
PCR



✓ Release the disc from **Q-Dip** into the PCR Tube directly.

✓ Ready for PCR

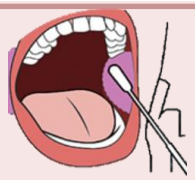
Results



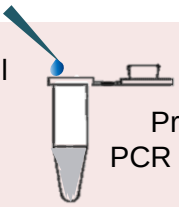
Qexp-MDx Series

Qexp-MDx ALDH2 typing kit

Sampling



Transfer 2 µl



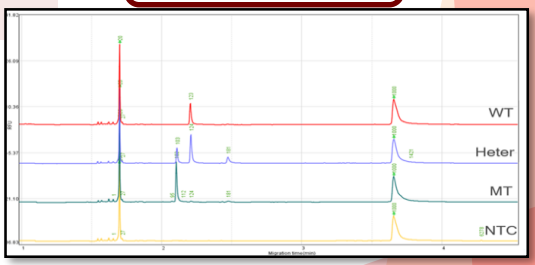
Pre-Mix PCR Reagent

PCR

Click One Button to Start

Qsep1

Results



Coming Soon……

Order Information

Qsep Series

Order No. (Cat No.)	Product
C400100	*Qsep400* Bio-Fragment Analyzer
C100100	*Qsep100* Bio-Fragment Analyzer
C100101	*Qsep100* Advance Bio-Fragment Analyzer
C100001	*Qsep1* Bio-Fragment Analyzer

Cartridges (for *Qsep400*)

Order No. (Cat No.)	Product	
C405101	4-Channel S2-Standard Cartridge	1 Cartridge/Box
C405102	4-Channel S1-High Resolution Cartridge	1 Cartridge/Box
C405106	4-Channel S3-Kilobase Cartridge	1 Cartridge/Box
C405103	4-Channel F3-Fast Cartridge	1 Cartridge/Box
C405105	4-Channel N1-High Sensitivity Cartridge	1 Cartridge/Box
C405110	4-Channel R1-RNA Cartridge	1 Cartridge/Box

Cartridges (for *Qsep1* & *Qsep100*)

Order No. (Cat No.)	Product	
C105201	S2-Standard Cartridge	2 Cartridges/Box
C105801	S2-Standard Cartridge	8 Cartridges/Box
C105202	S1-High Resolution Cartridge	2 Cartridges/Box
C105802	S1-High Resolution Cartridge	8 Cartridges/Box
C105206	S3-Kilobase Cartridge	2 Cartridges/Box
C105806	S3-Kilobase Cartridge	8 Cartridges/Box
C105203	F3-Fast Cartridge	2 Cartridges/Box
C105803	F3-Fast Cartridge	8 Cartridges/Box
C105105	N1-High Sensitivity Cartridge	1 Cartridge/Box
C105205	N1-High Sensitivity Cartridge	2 Cartridges/Box
C105110	R1-RNA Cartridge	1 Cartridge/Box
C105210	R1-RNA Cartridge	2 Cartridges/Box
C105810	R1-RNA Cartridge	8 Cartridges/Box
C105221	P2-Protein Cartridge	2 Cartridges/Box

Reagents & Accessories

Order No. (Cat No.)	Product	
C109100-500A	20bp&1000bp Alignment Marker	500μL/ Vial
C109102-500A	20bp&5000bp Alignment Marker	500μL/ Vial
C109109-500A	20bp&1500bp Alignment Marker	500μL/ Vial
C109110-500A	20bp&15000bp Alignment Marker	500μL/ Vial
C109120-500A	5x Lower Alignment Marker	500μL/ Vial

Reagents & Accessories

Order No. (Cat No.)	Product	
C109200	15-622bp Size Marker	500μL/ Vial
C109300	50bp-3000bp Size Marker	500μL/ Vial
C109300-HC	50bp Size Marker	250μL/ Vial (High Concentration)
C109400	100bp-10kb Size Marker	100μL/ Vial (5 tubes/ bag)
C104401	Mineral Oil	25 ml/ bottle
C104402	Dilution Buffer	50 ml/ bottle
C104408	Dilution buffer	30 ml/ bottle
C104408-10X	10X Dilution buffer	8 ml/ bottle
C104403	Separation buffer (for DNA cartridge use)	250 ml/ bottle
C104403-10X	10X Separation buffer (for DNA cartridge use)	250 ml/ bottle
C104409	Separation buffer (for DNA cartridge use)	100 ml/ bottle
C104409-10X	10X Separation buffer (for RNA cartridge use)	15 ml / bottle
C104201	Separation Buffer Tray	10 pcs
C104250	8-STRIPS Micro Vial	10 Units/ Bag
C104003-8	*Qsep1* 8-well Sample Tray	
C104003-12	*Qsep1* 12-well Sample Tray	
C104002	Purge Station	
C104301-00	Qairbox (Protable DC Air Pump)	

Thermal Cycler

Order No. (Cat No.)	Product
C310200	*Qamp mini* Thermal Cycler (including Writer and Programmable Chip)
C310201	*Qamp mini* Thermal Cycler (including Programmable Chip)

PCR Reagent

Order No. (Cat No.)	Product	
C108100-CE	ExpressGO™ PreMix-CE 2X Master Mix	1.25 ml/ Vial
C108200-CE	DirectGO™ PreMix-CE 2X Master Mix	1.25 ml/ Vial
C108300	AccuGO™ Pfu proofreading DNA Polymerase (including 5X AccuGO Reaction Buffer)	1.25 ml/ Vial

NOTE

BiOptic Inc.

Innovation Revolution

NOTE

BiOptic Inc.

Innovation Revolution

NOTE

BiOptic Inc.

Innovation Revolution

Website: www.bioptic.com.tw
E-mail: info@bioptic.com.tw
Tel: +886-2-2218-8726
Fax: +886-2-2918-8727
Add: 4F, No.108-3, Minquan Rd., Xindian Dist., NewTaipei City 23141, Taiwan (R.O.C)