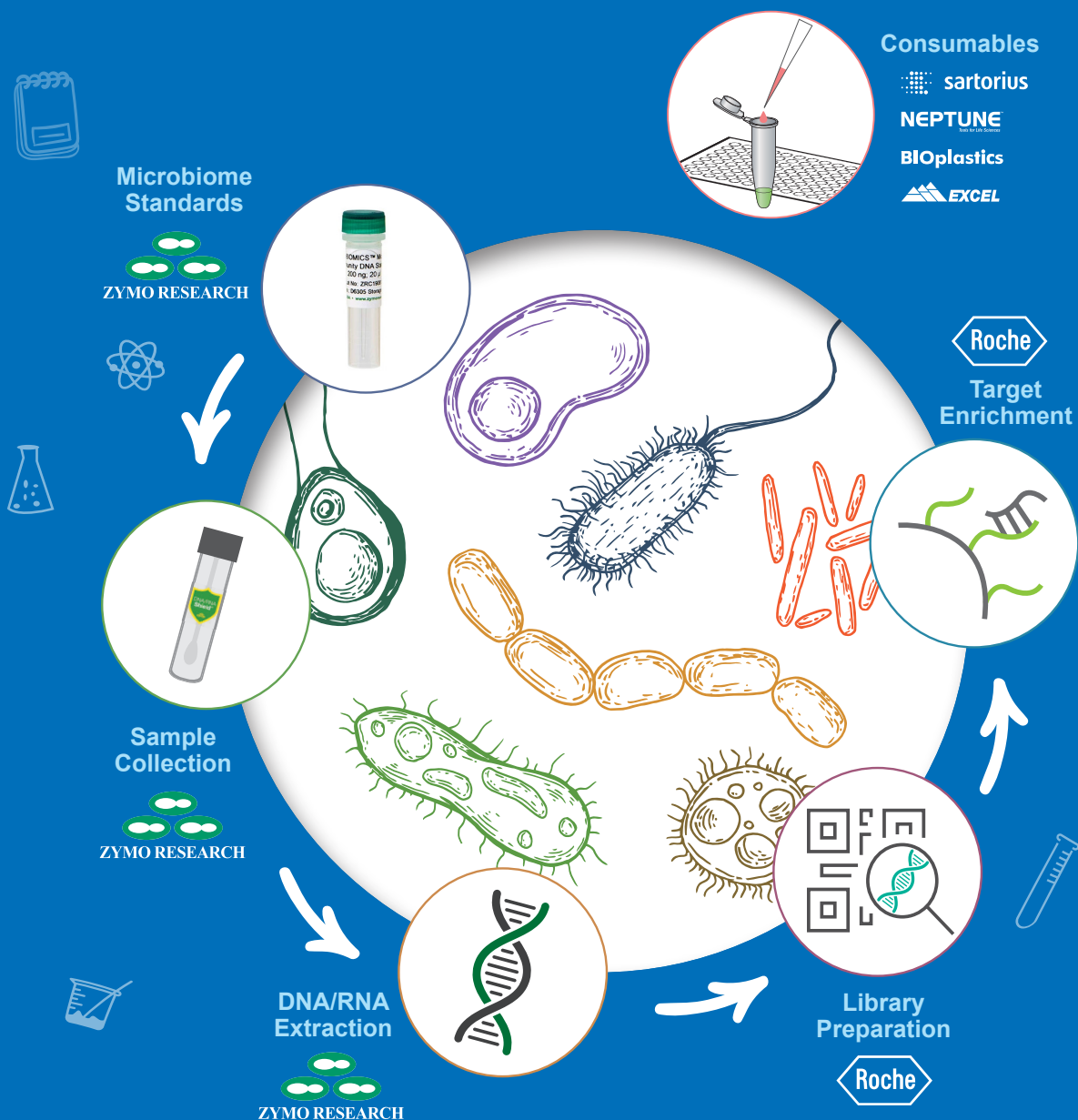


Next Generation Sequencing

Metagenomics





Microbiome Standards



透過已知菌落群，檢視整套實驗，利於優化操作流程

ZymoBIOMICS® Microbial Community
ZymoBIOMICS™ Microbial Community Standard II
ZymoBIOMICS™ Spike-in Control



Sample Collection



穩定保存樣品中的核酸

DNA/RNA Shield™ - Fecal Collection Tube
DNA/RNA Shield™ Lysis Tube w/ Swab (Microbe)
DNA/RNA Shield™ Lysis Tube (Microbe)



DNA/RNA Extraction



利用 **BashingBead™** 均質化搭配一系列試劑，無偏差萃取樣品中的核酸

ZymoBIOMICS™ DNA/RNA Kit
HostZERO Microbial DNA Kit



Library Preparation

Roche

創新的“單管反應體系”進一步提升文庫構建效率

KAPA HyperPlus Kit
KAPA HyperPrep Kit
HiFi for 16S library 建庫

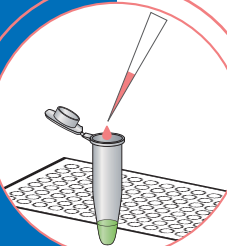


Target Enrichment

Roche

從 **Metagenome** 樣品中檢測抗生素抗藥性

SeqCap EZ ResCap Design



Consumables

一應俱全的週邊商品

sartorius Pipette
NEPTUNE Tip / Tube
BIOplastics 8-strips / Plate
EXCEL Film

ZymoBIOMICS[®] Microbial Community

- 獨家提供標準品 – 混合已知的 3 Gram-negative, 5 Gram-positive and 2 yeast strains
- GC content range 15%-85% 可以監控、優化 NGS 整套流程，使得 data 可信度提升

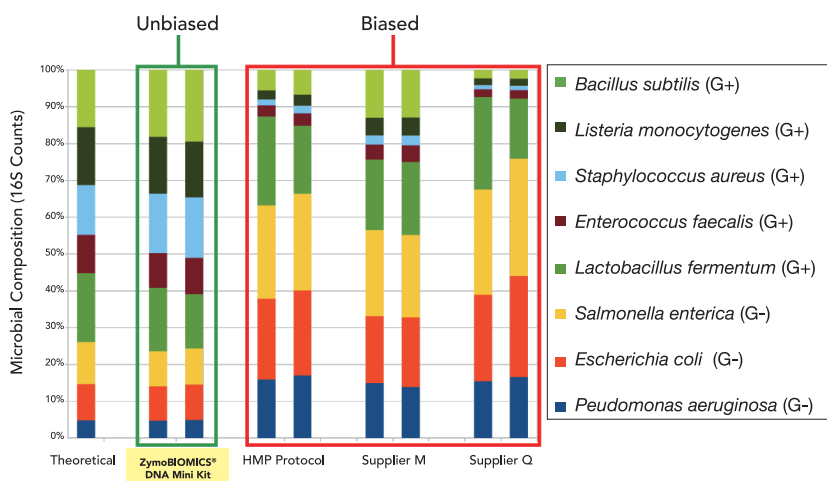
產品形式

純菌：可以確認萃取流程是否可以無偏差得到所有細菌的核酸

DNA：可以確認 PCR 流程是否可以無偏差放大所有細菌的核酸

Species	Theoretical Composition (%)				
	Genomic DNA	16S Only	16S & 18S	Genome Copy	Cell Number
Pseudomonas aeruginosa	12	4.2	3.6	6.1	6.1
Escherichia coli	12	10.1	8.9	8.5	8.5
Salmonella enterica	12	10.4	9.1	8.7	8.7
Lactobacillus fermentum	12	18.4	16.1	21.6	21.4
Enterococcus faecalis	12	9.9	8.7	14.6	14.5
Staphylococcus aureus	12	15.5	13.6	15.2	15.1
Listeria monocytogenes	12	14.1	12.4	13.9	13.8
Bacillus subtilis	12	17.4	15.3	10.3	10.2
Saccharomyces cerevisiae	2	NA	9.3	0.57	1.13
Cryptococcus neoformans	2	NA	3.3	0.37	0.73

發現 bias 並消滅他 !!



Catalog No.	Product	Size
D6300	ZymoBIOMICS [™] Microbial Community Standard	0.75 ml
D6305	ZymoBIOMICS [™] Microbial Community DNA Standard	200 ng
D6306	ZymoBIOMICS [™] Microbial Community DNA Standard	2000 ng

ZymoBIOMICS™ Microbial Community Standard II

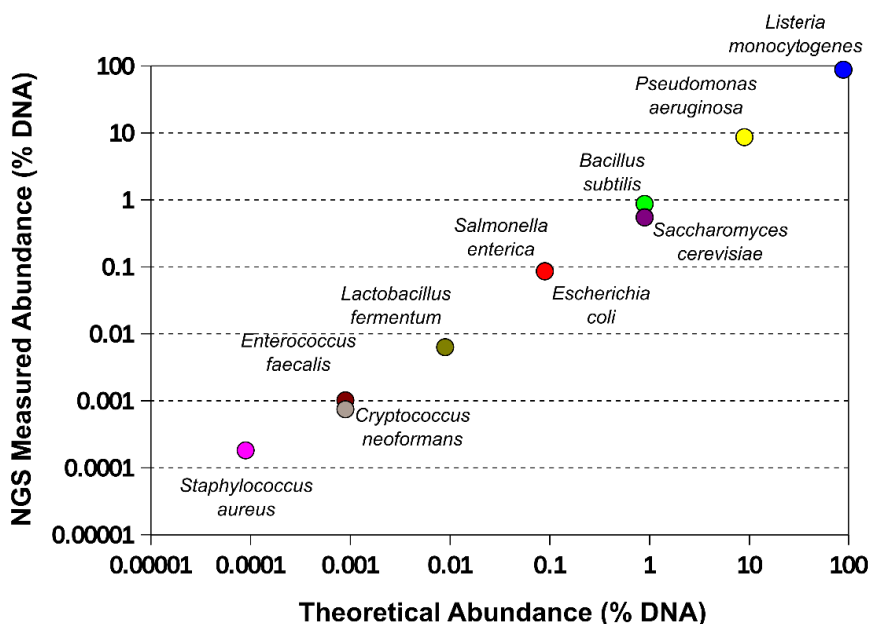
- 標準品中各種菌量以 log 分布， $10^2 \sim 10^8$ cells - 混合已知的 3 Gram-negative, 5 Gram-positive and 2 yeast strains
- 可以監控、優化實驗流程和了解平台的靈敏度，提升 data 可信度

產品形式

純菌：可以確認萃取流程是否可以無偏差得到所有細菌的核酸

DNA：可以確認 PCR 流程是否可以無偏差放大所有細菌的核酸

標準品中不同細菌以 log 分布呈現

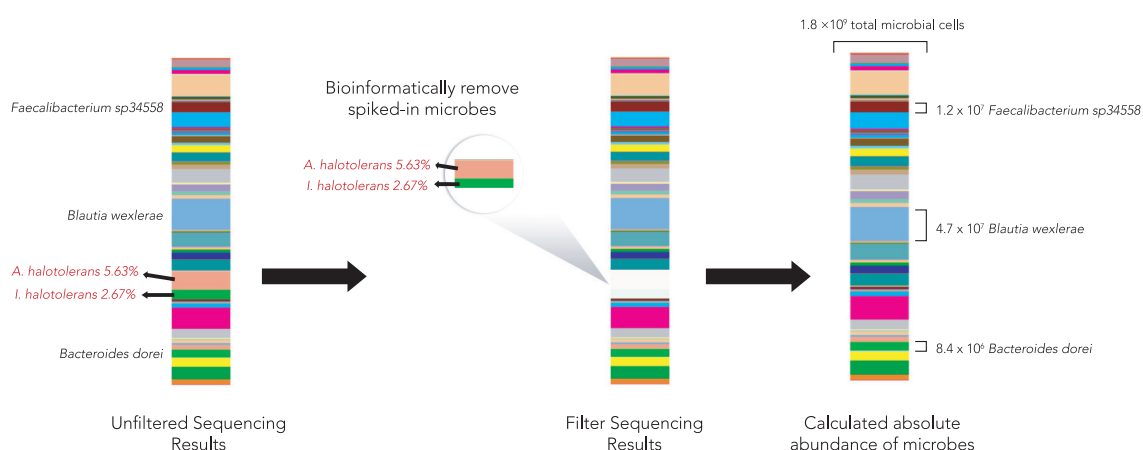


Catalog No.	Product	Size
D6310	ZymoBIOMICS™ Microbial Community Standard II (Log Distribution)	0.75 ml
D6311	ZymoBIOMICS™ Microbial Community DNA Standard II	200 ng

ZymoBIOMICS™ Spike-in Control

- ZymoBIOMICS™ Spike-in Control I 內含兩種細菌 *Imtechella halotolerans* (G-) 和 *Allobacillus halotolerans* (G+)；ZymoBIOMICS™ Spike-in Control II 內含三種細菌株 *Truepera radiovictrix*, *Imtechella halotolerans* and *Allobacillus halotolerans* 作為 whole-cell spike-in control
- 加入未知樣本中，可在菌種定序扮演 in-situ positive control 的角色
- 極少見於 human microbiome samples 中，所以不會影響實驗分析
- Absolute Quantification：透過 NGS 分析，可以定量出細胞數量

精準定量微生物



Cat. No.	Product	Size
D6320	ZymoBIOMICS™ Spike-in Control I (High Microbial Load)	25 preps
D6320-10	ZymoBIOMICS™ Spike-in Control I (High Microbial Load)	250 preps
D6321	ZymoBIOMICS™ Spike-in Control II (Low Microbial Load)	25 preps
D6321-10	ZymoBIOMICS™ Spike-in Control II (Low Microbial Load)	250 preps

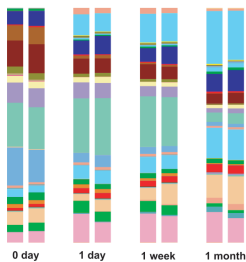
DNA/RNA Shield™ Collection Devices

- 長時間穩定的保存樣本中的 DNA, RNA
- 適用樣本廣，細胞、組織、全血、土壤...等
- 有效抑制病毒與其他感染源的活性
- 可直接搭配 DNA/RNA 純化試劑，不需要額外的移除步驟
- 產品選擇多元，有各種 Collection devices

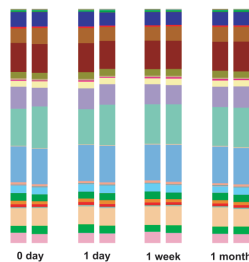
操作流程



Without DNA/RNA Shield™ - Composition Changes



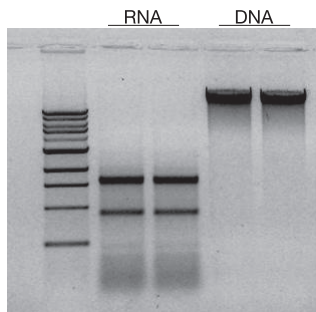
With DNA/RNA Shield™ - Accurate Composition



使用 DNA/RNA shield，
樣品放在室溫都不怕

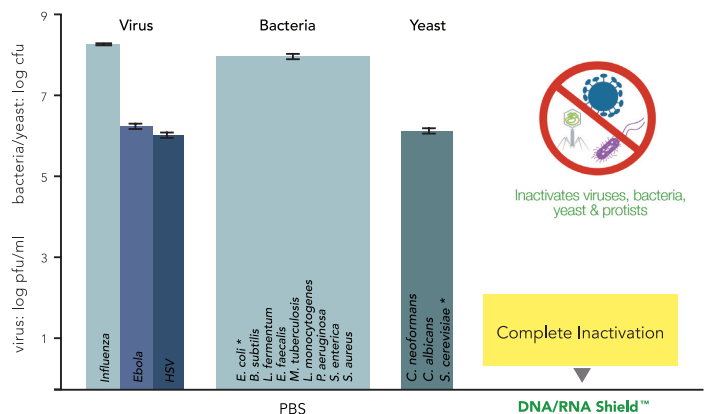
Microbial composition of stool is unchanged after one month at ambient temperature with DNA/RNA Shield™.

DNA/RNA 皆適用



High quality DNA and RNA is effectively purified from blood stored in DNA/RNA Shield™ using the Quick-gDNA™ and Quick-RNA™ kits from Zymo Research respectively.

去除病原體活性，提高安全性



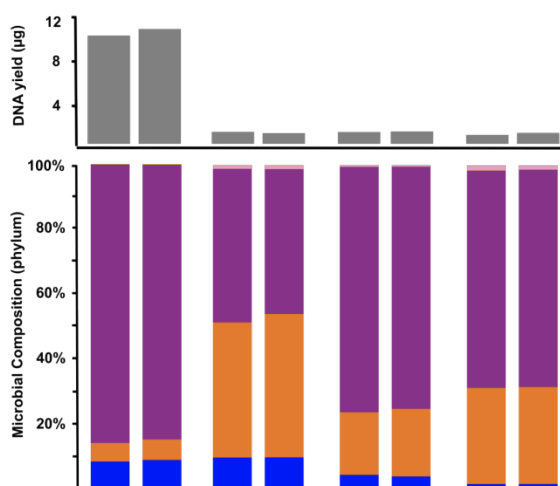
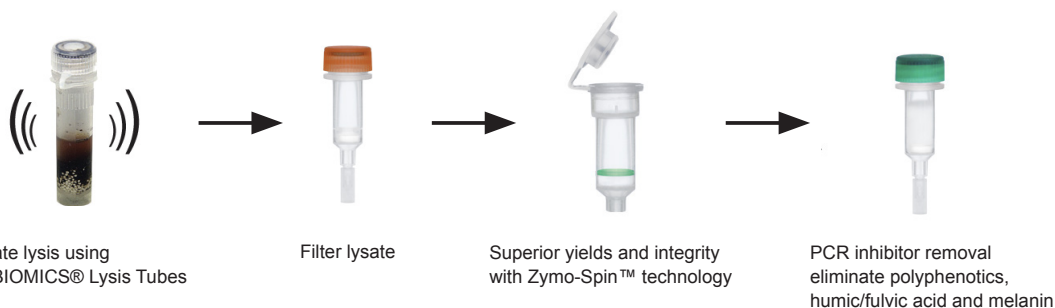
Viruses, bacteria and yeast are effectively inactivated by DNA/RNA Shield™



Catalog No.	Product	Size	Sample Source	format
R1100-50	DNA/RNA Shield	50 ml	Cells, Tissues	
R1100-250		250 ml		
R1102	DNA/RNA Shield™ - Collection Tube (1ml fill)	50 pack		
R1200-25	DNA/RNA Shield (2X Concentrate)	25 ml	Blood, Biological liquids	
R1200-125		125 ml		
R1101	DNA/RNA Shield™ - Fecal Collection Tube	10 pack	Stool	
R1150	DNA/RNA Shield™ - Blood Collection Tube	50 pack	Blood	
D3061-1-140	Urine Conditioning Buffer	140 ml	Urine	
R1106	DNA/RNA Shield™ Collection Tube w/ Swab (1ml fill)	10 pack	Mucosal cells from nose, mouth	
R1107		50 pack		
R1105	DNA/RNA Shield™ Lysis Tube (Tissue)	50 pack	Tissues	
R1104	DNA/RNA Shield™ Lysis Tube w/ Swab (Microbe)	10 pack	Microbe	
R1103	DNA/RNA Shield™ Lysis Tube (Microbe)	50 pack	Microbe	
R1210	DNA/RNA Shield Saliva Collection Kit	1 x 2 ml fill	Saliva	

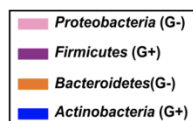
ZymoBIOMICS® DNA/RNA Kits

- 適用樣本廣，feces, soil, plant, water, biofilms, swabs, saliva, body fluids, etc
- 獨家 lysis system 以及 BashingBead 可將所有微生物徹底裂解
- 貼心的 PCR Inhibitor removal column，移除 PCR 干擾因子
- 後續可應用於 PCR, arrays, 16S rRNA gene sequencing, and shotgun sequencing



高產量・無偏差

The ZymoBIOMICS™ DNA Kit reliably isolates DNA from even the toughest to lyse gram positive organisms, enabling unbiased analyses of microbial community compositions.



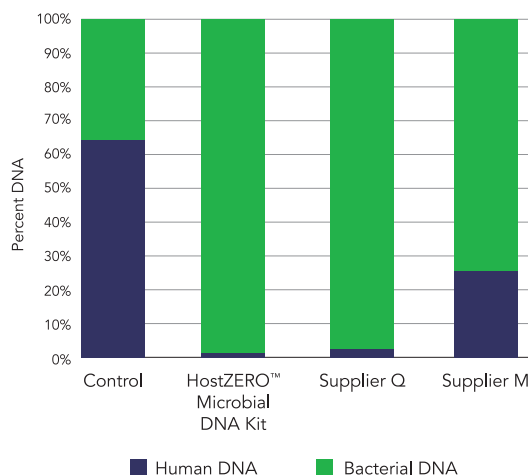
Catalog No.	Product	Size	Format	Binding Capacity	Lysis matrix
D4301	ZymoBIOMICS DNA Microprep Kit	50 preps	Spin-Column	5 µg	BashingBead™
D4300	ZymoBIOMICS DNA Miniprep Kit	50 preps	Spin-Column	25 µg	Lysis Tubes
D4302	ZymoBIOMICS DNA 96 MagBead Kit	2 x 96 preps	Magnetic Beads	10µg	BashingBead™
D4308	ZymoBIOMICS DNA 96 MagBead Kit	2 x 96 preps	Magnetic Beads	10µg	Lysis Rack
R2001	ZymoBIOMICS RNA Miniprep Kit	50 preps	Spin-Column	100 µg	BashingBead™
R2002	ZymoBIOMICS DNA/RNA Miniprep Kit	50 preps	Spin-Column	100 µg	Lysis Tubes



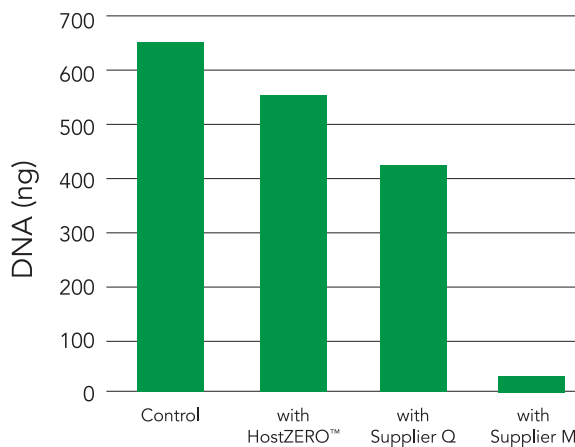
HostZERO Microbial DNA Kit

- 可得到無 host 干擾的 microbial DNA
- Depletes Host DNA : 移除 $\geq 90\%$ eukaryotic host DNA
- Preserves Microbial DNA : 可回收 $\geq 85\%$ microbial DNA
- Simple and Fast : 手做時間只要 30 分鐘

Host DNA 移除效果佳



Bacterial DNA 高回收率



Catalog No.	Product	Size
D4310	HostZERO Microbial DNA Kit	50 preps

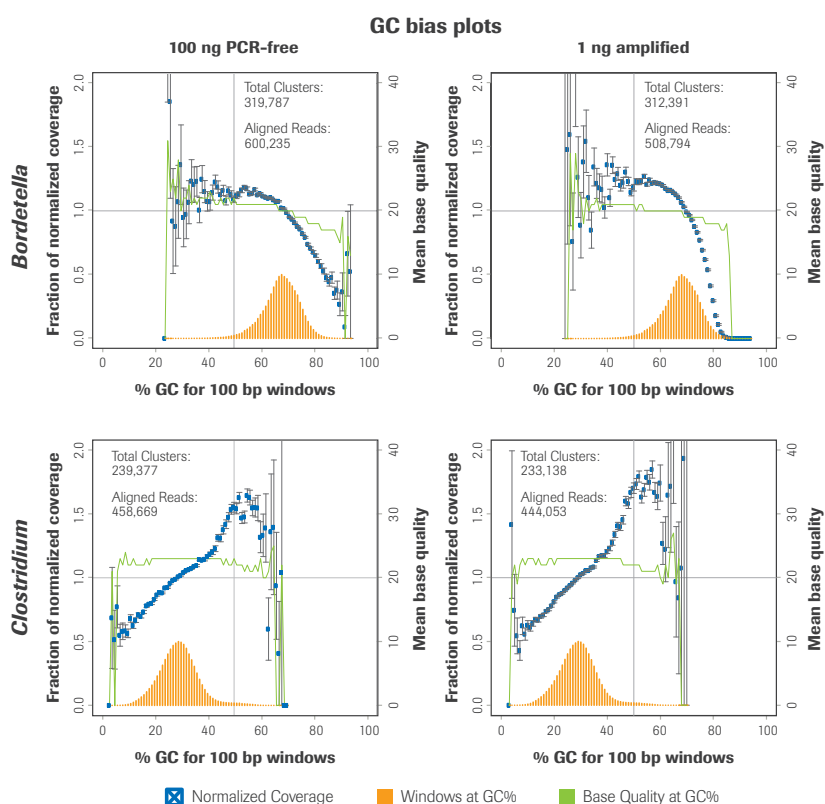
KAPA Hyper Prep Kit

創新單管設計，搭配優化的配方以及經由 "directed evolution" 技術篩選過的酵素，能夠使 adapter-ligated library 獲得高產率並且降低 amplification bias。特別是針對 FFPE 與 low-input 樣品可以獲得更高的 library 多樣性、降低 duplication rate 與更均勻的覆蓋率。

- 提升 NGS library 產率與序列品質
- 可由 FFPE 樣本構築高品質 libraries
- 操作簡便，不到 3 小時即可完成 library 構築

高表現
FFPE 樣本
輕鬆定序

最低的 Amplification bias



Cat No	Product	Size
07962312001	KAPA Hyper Prep Kit	8 rxns
07962347001		24 rxns
07962363001		96 rxns

for research use only, not for clinical purpose

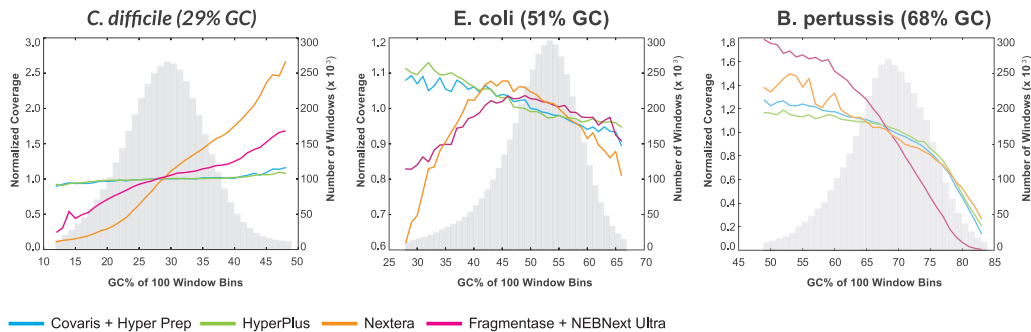


KAPA HyperPlus kit

卓越的精簡化單管流程，包含 fragmentation 與 library preparation 所需試劑。可根據實驗需求調整 fragmentation 時間，以獲得最適當的片段大小，優化的試劑可降低 bias 並有更均勻的覆蓋度。

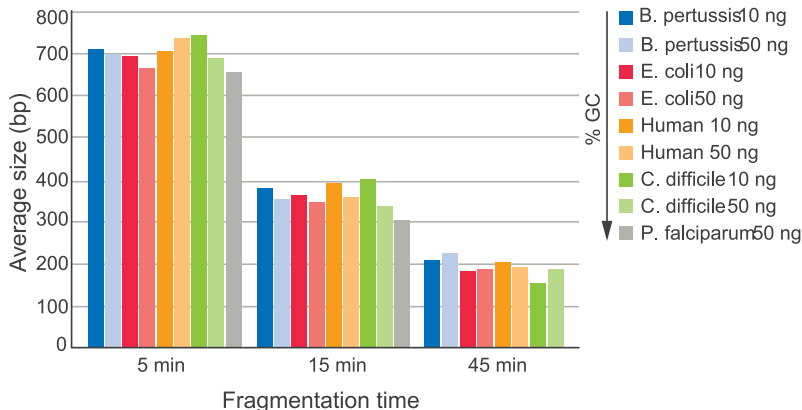
- 2.5 h 完成 DNA 片段化和 library 製備
- 擴增偏差低，測序覆蓋度更一致
- 適用於 PCR-free workflow

序列覆蓋偏好性低



- 與 tagmentation 和其他酵素片段化 DNA 的方法相比，HyperPlus kit 的序列偏好性更低
- HyperPlus kit 序列偏好性低，使得測序覆蓋度更均一，進而降低測序成本

DNA 片段大小可調整，片段化結果可重複性高



- 調整不同的片段化作用時間，片段大小可控制在 150-800 bp 之間
- 不同 GC 含量與不同 DNA 起始量，都可以得到大小一致的片段

Cat No	Product	Size
07962380001	KAPA HyperPlus Kit	8 rxns
07962401001		24 rxns
07962428001		96 rxns

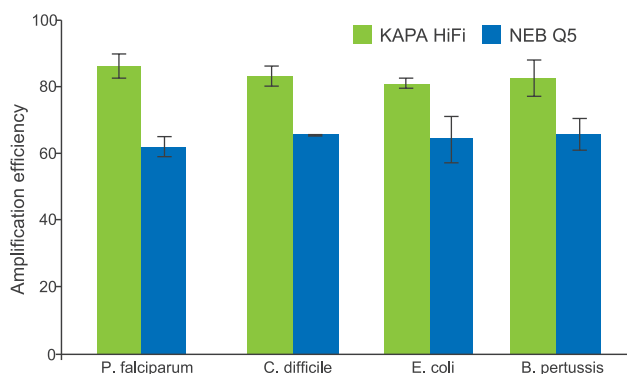
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KAPA HiFi Kits

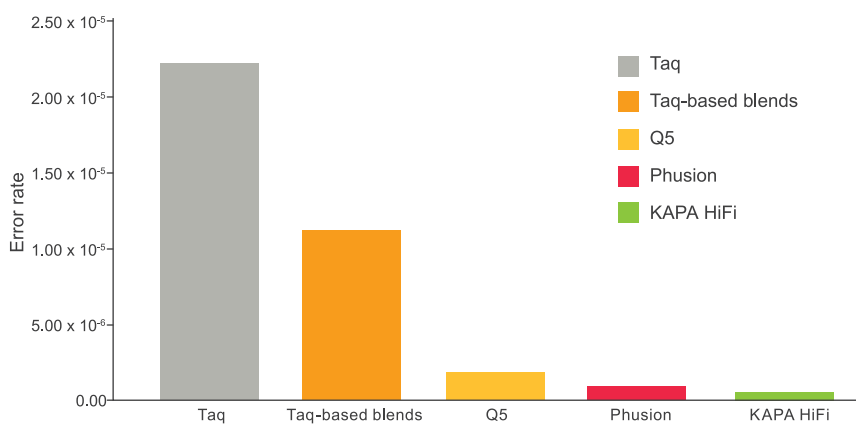
領先業界的最高正確性和穩定的性能，可提升定序整體序列品質，具有 low amplification bias、lower duplication rates 特性以及在困難區域提供更均勻的覆蓋度。

- Sanger Institute 次世代定序 (NGS) 指定使用
- 最高的正確率，是 Taq 酵素的 100X
- 可以擴增各種複雜模板，如 AT、GC-rich 片段
- 擴增長度高達 15 kb
- 具備 HotStart 與 ReadyMix 版本

優異的擴增效率，可減少 PCR cycles



進化版高保真聚合酵素，具有最低錯誤率



Cat No	Product	Size
07958846001	KAPA HiFi PCR Kit	250 U
07958897001	KAPA HiFi HotStart PCR Kit	250 U
07958935001	KAPA HiFi HotStart ReadyMix	500 x 25 µl rxns

for research use only, not for clinical purpose



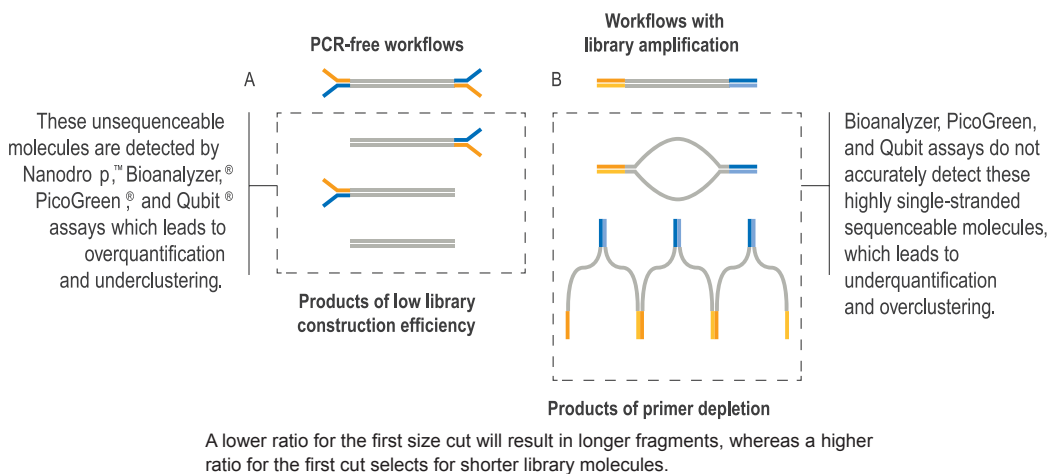
KAPA Library Quantification Kits

Real-time PCR 定量方式能夠準確定量 NGS library，使 cluster 的大小與密度達到最佳並發揮儀器最大效能。

- 可靠、靈敏地定量所有可被測序的 library
- 能準確、重複地定量不同濃度、不同片段長度分佈與不同 GC 含量的 library
- 對於多重測序，確保 library 準確、等摩爾數的混合
- 可支援自動化平臺

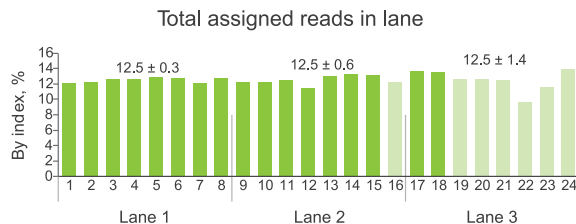
Real-time PCR 定量方式，準確定量完整連接 adaptor 的 library

- 僅定量可被測序的 library；對比 real-time PCR 方法，其他定量方法容易低估或高估 library 濃度



準確和靈敏的定量能使 multiplexed sequencing pools 中 reads 均勻分佈

- 所有類型的 library 均可獲得可靠結果，包括 low-quality FFPE DNA



Twenty-four indexed libraries were quantified by qPCR using the KAPA Library Quantification Kit (for Illumina[®] platforms) and combined to create three sequencing pools of equimolar concentration.

Cat No.	Product	Size
07960140001	Complete kit (Universal)	500 x 20 µl rxns
07960204001	Complete kit (ABI Prism [®])	500 x 20 µl rxns
07960255001	Complete kit (Bio-Rad [®])	500 x 20 µl rxns
07960298001	Complete kit (optimized for Roche [®] LightCycler 480)	500 x 20 µl rxns
07960336001	Complete Kit (ROX Low)	500 x 20 µl rxns

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KAPA Adapter Kits

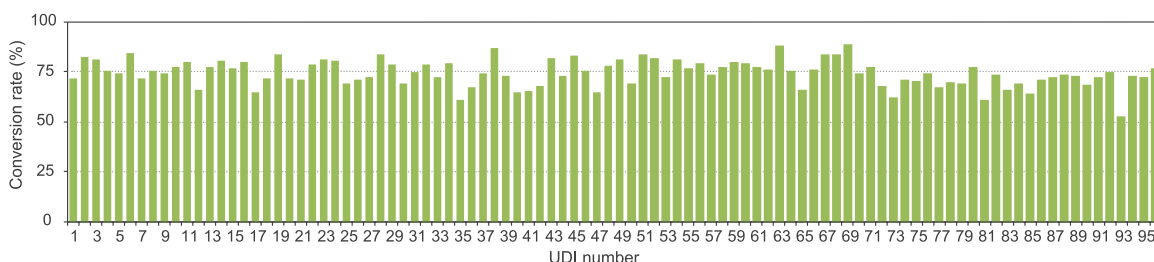
KAPA Dual-Index Adapter Kit

- 經 functionally tested 確保優異的文庫構建效率及較少的 adapter-dimer 形成
- barcode cross-contamination 通過 Sequencing-based QC 檢測
- 可應用於 KAPA HyperPrep、KAPA HyperPlus、KAPA RNA HyperPrep 和 HyperCap workflow

KAPA Unique Dual-Indexed Adapter Kit

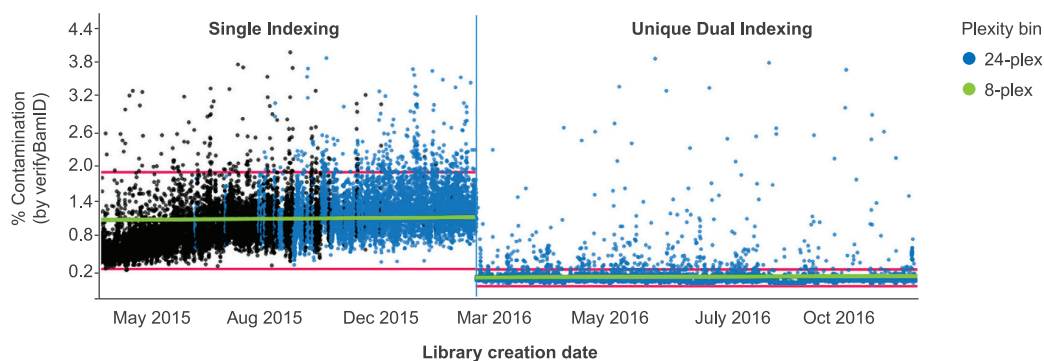
- Non-redundant dual sequencing barcode 組合 (unique dual indexing) 可降低 index 錯誤配置
- 經 functionally tested 確保優異的文庫構建效率及較少的 adapter-dimer 形成
- 可應用於 KAPA HyperPrep、KAPA HyperPlus、KAPA RNA HyperPrep 和 HyperCap workflow

KAPA UDI 提供一致性高的建庫效率



The average conversion rate of $74.5\% \pm 6.5\%$ across the 96 index combinations is representative of data generated across several independent experiments.

較少錯誤配置的 reads 可提高結果的可信度



Cat. No.	Product	Size
0827855702	KAPA Dual-Indexed Adapter Kit (15 μ M)	96 x 20 μ L
0886191702	KAPA Unique Dual-Indexed Adapter Kit (15 μ M)	96 x 20 μ L

for research use only, not for clinical purpose

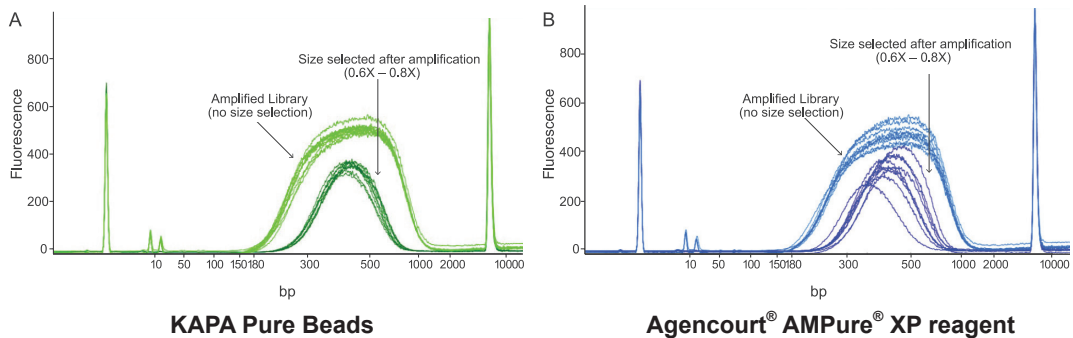


KAPA Pure Beads

KAPA Pure Beads 為 NGS 文庫製備流程中的反應純化、片段篩選，提供靈活可調整、表現穩定的解決方案。

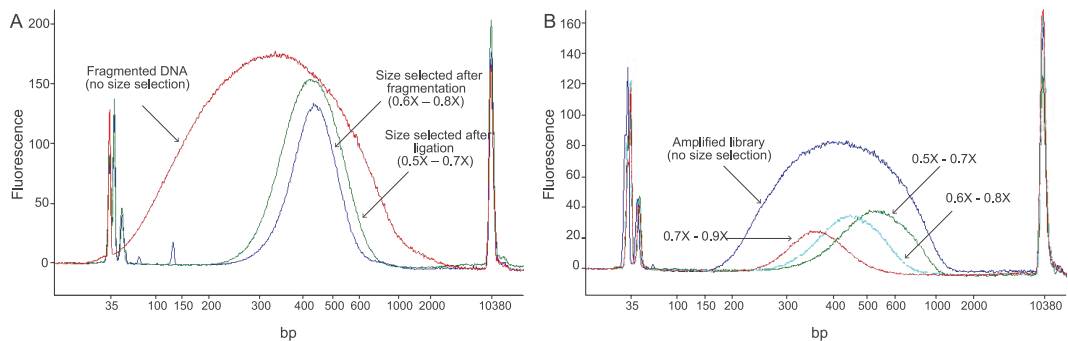
- 針對 single- 和 double-stranded DNA (1 ng – 5 µg) 具高回收率
- 快速、有效的去除實驗反應不需要的成分
- 可應用於 bead-based workflows
- 可調節片段篩選大小
- 適用於所有 KAPA DNA 和 RNA 文庫製備流程

KAPA Pure Beads 可產生大小分佈高度一致的 library



All libraries were prepared with the KAPA HyperPrep Kit, from 1 µg high-quality *E. coli* genomic DNA, sheared with a Covaris E220 Focused Ultrasonicator.

文庫構建流程中，可於多處進行片段篩選調整



A lower ratio for the first size cut will result in longer fragments, whereas a higher ratio for the first cut selects for shorter library molecules.

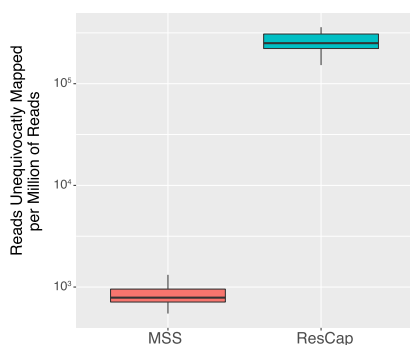
Cat. No.	Product	Size
07983271001	KAPA Pure Beads	5 mL
07983280001		30 mL
07983298001		60 mL

for research use only, not for clinical purpose

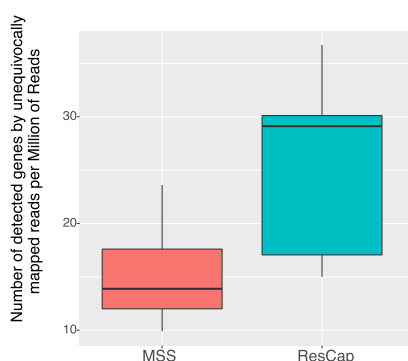
SeqCap EZ ResCap Design

獨特且全面性的設計，用於細菌抗藥性基因研究，panel 包含 78,600 個 non-redundant genes，與傳統的 metagenomics shotgun sequencing 方式相比，SeqCap EZ ResCap Design 可大幅提升檢測的靈敏度與專一性。

SeqCap EZ ResCap Design 比對到的 Reads 數為傳統 MSS (metagenomics shotgun sequencing) 的 300 倍以上



Reads Unequivocally Mapped per Million of Reads



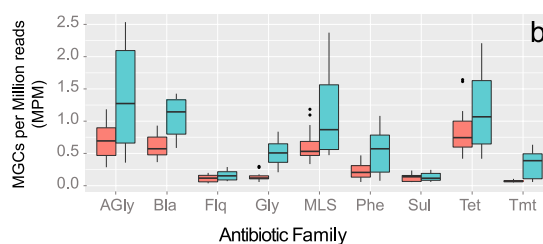
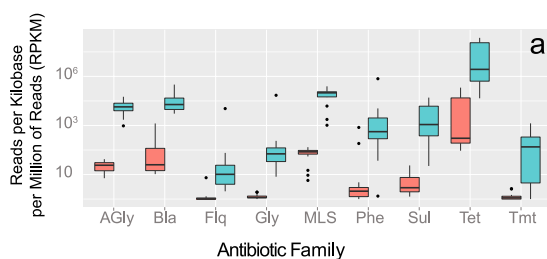
Number of detected genes by Unequivocally Mapped reads per Million of Reads

Sequencing Protocol



SeqCap EZ ResCap Design 的 sensitivity 高於 MSS，可檢測到更多的抗藥性基因

Abundance and Diversity of Antibiotic Resistance Genes

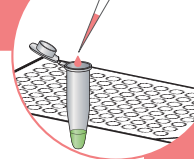


Publication

Lanza VF, Baquero F, Martínez JL, et al. In-depth resistome analysis by targeted metagenomics. *Microbiome*. 2018;6(1):11.

Cat. No.	Product	Size	IRN
08333025001	SeqCap EZ Share Developer	24 rxns	4000016070
08333033001	(SeqCap EZ ResCap Design)	96 rxns	

for research use only, not for clinical purpose



歡迎試用
DEMO

完美均衡手動移液器 TACTA

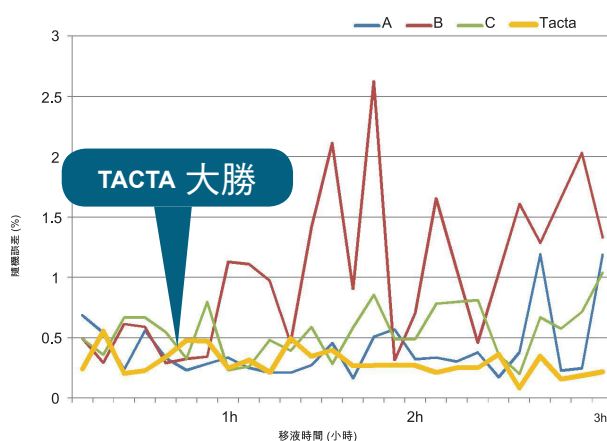
規格齊全，從 0.1 μ l 到 10ml / 市場公認最佳精確性 / 實驗結果最可靠



reddot design award
winner 2016
傑出設計獲得德國紅點設計獎肯定



四種不同廠牌移液器，經過三小時測試所展現的結果精確度



此測試由獨立實驗室根據 ISO 8655 標準使用同一製造商生產的 1000 μ l 移液器及其 1000 μ l 吸頭進行。

電動移液器的標竿

全新進化 / 全面升級 Picus 電動移液器

規格齊全，從 0.2 μ l 到 10ml / 體積最小 / 重量最輕 / 準度最高

- 體積最小 - 單爪 10-300 μ l 僅長 21cm
- 重量最輕 - 單爪 10-300 μ l 只有 100g
- 準度最高 - 符合 ISO8655 最高標準

ISO
最高標準



reddot design award
winner 2012

傑出設計獲得德國紅點設計獎肯定

NEPTUNE
Tools for Life Sciences

TIP 微量吸管尖



Sample Saving Surface 低殘留表面處理 保留珍貴樣品並精準化實驗數據

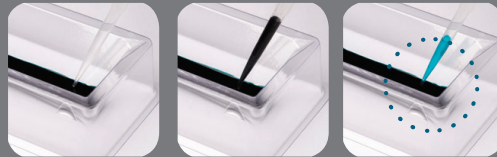
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Before Pipetting

Fluid Drawn

Sample Dispensed

COMPETITION



	品號	品名	規格	Packs / Case
Filter Tip (盒裝滅菌)	BT10XLS3	NEPTUNE 10 ul XL, Filtered, Sterile	10 trays of 96/pack	5 packs/case
	BT20	NEPTUNE 20 ul, Filtered, Sterile	10 trays of 96/pack	5 packs/case
	BT100	NEPTUNE 100 ul, Filtered, Sterile	10 trays of 96/pack	5 packs/case
	BT200	NEPTUNE 200 ul, Filtered, Sterile	10 trays of 96/pack	5 packs/case
	BT300	NEPTUNE 300 ul, Filtered, Sterile	10 trays of 96/pack	5 packs/case
	BT1000.96	NEPTUNE 1000 ul, Filtered, Sterile	8 trays of 96/pack	4 packs/case
Non-Filter Tip (盒裝滅菌)	BT1250	NEPTUNE 1250 ul, Filtered, Sterile	8 trays of 96/pack	4 packs/case
	2042.S	NEPTUNE 10 ul, Sterile	10 trays of 96/pack	5 packs/case
	2102.S	NEPTUNE 200ul, Sterile	10 trays of 96/pack	5 packs/case
	2092.S	NEPTUNE 300 ul, Sterile	10 trays of 96/pack	5 packs/case
Non-Filter Tip (快裝)	2372.S	NEPTUNE 1250 ul, Sterile	8 trays of 96/pack	4 packs/case
	2047	NEPTUNE 10 ul	20 trays of 96/pack	4 packs/case
	2347	NEPTUNE 10 ul XL	10 trays of 96/pack	10 packs/case
	2107	NEPTUNE 200 ul	10 trays of 96/pack	10 packs/case
	2097	NEPTUNE 300 ul	10 trays of 96/pack	10 packs/case
	2377	NEPTUNE 1250 ul	10 trays of 96/pack	5 packs/case
Non-Filter Tip (散裝)	2040	NEPTUNE 10 ul	1000 tips / bag	20 bags / case
	2340S3	NEPTUNE 10 ul XL	1000 tips / bag	20 bags / case
	2100	NEPTUNE 200 ul	1000 tips / bag	10 bags / case
	2090	NEPTUNE 300 ul	1000 tips / bag	10 bags / case

ANCELL

Biotix
BIOLOGICAL TECHNOLOGIES

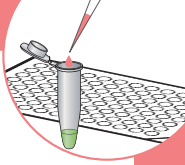
1.5mL Microcentrifuge 微量離心管

- 平蓋設計
- 耐離心轉速高達 20,000 RCF
- PP (Polypropylene) 材質
- 管身和上蓋處具霧面設計，便於標記樣本資訊
- 管身有刻度設計 (100ul)
- DNase, RNase-free, DNA, and Endotoxin-Free
- 可耐高溫滅菌 (121°C , 15 psi, 15 minutes)



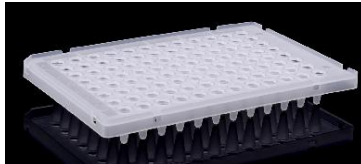
低殘留

品號	規格	包裝
ANCELL 1260-00	1.5 mL Microcentrifuge Tube, Clear, 好開、低殘留、管蓋大	500/pack, 10 packs/case
BIOTIX MTL-0150-BC	1.5 mL Microcentrifuge Tube, Clear, 防爆、低殘留	500/pack, 10 packs/case



96well PCR / qPCR Plate

- 管蓋易開闔，操作方便
- 0.3mm 勻稱薄壁設計，熱傳導均勻且蒸發率低
- EU-O 型材質，超低吸附性增強實驗靈敏度
- 絕無 DNase、RNase、Metal Pyrogen 污染
- 高管、矮管、磨砂、透明、白色等各式材質可搭配不同儀器與實驗目的
- 不論各式機型，皆有最適合的單管、八連排、96 孔盤或 384 孔盤，產線最齊全
- 業界最先進的雷射刻印技術，可依需求代客刻印條碼或 LOGO 於耗材上

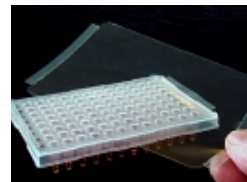
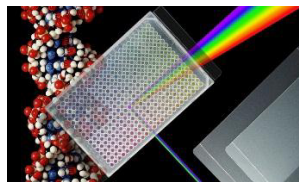
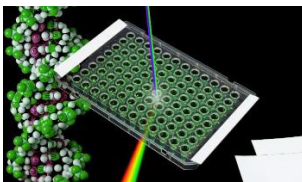


Cat. No.	Product	Size	適用機型
BP AB17500	EU Sub skirted 96 x 0.2 ml Thin-wall Plate, Forsted (凸盤)	25 plates / box	ABI 7000 / 7300 / 7500
BP AB19800	EU Sub skirted 96 x 0.1 ml Thin-wall Plate, Forsted (凸盤)	25 plates / Box	ABI StepOnePlus / 7500 Fast
BP B17489	EU Semi skirted 96 x 0.1 ml Thin-wall Plate, White (平盤)	25 plates / Box	Roche Light Cycler



PCR / qPCR 封膜

- DNase and RNase-free
- Thermal Seal RTS/RT2/RT2RR 系列具超高光學透明度
- 移除封膜不會有黏著劑殘留
- 密封性佳、減少蒸發及交叉汙染
- 適合儲存與 PCR/QPCR 應用



品號	規格	包裝
EXCEL TSS-RTQ-100	ThermalSeal® RTS, Optically Clear, Silicone Adhesive (無黏性，全系列適用)	100
EXCEL TS-RT2-100	ThermalSeal® RT2, Optically Clear for Flat-Top Plates (適用平盤)	100
EXCEL TS-RT2-RR-100	ThermalSeal® RT2RR, Optically Clear for Raised Rim Plates (適用凸盤)	100

Next Generation Sequencing

| Metagenomics |

