YEASEN

2023-2024

Yeasen Product Brochure

Life Science Research/NGS Library Preparation /
Molecular Diagnostics / Pharma & Biopharma

COMPANY OVERVIEW

Since its establishment, Yeasen Biotechnology Co., Ltd. has been focusing on the innovative development and industrialized manufacturing of enzymes, antigens and antibodies. Based on several R&D centers and two commercial-scale manufactories in Shanghai and Wuhan, we are committed to producing molecular biology enzymes and reagents, providing high-quality customized solutions to customers in the fields of basic biological research, diagnostic tests, biopharmaceuticals and vaccines. Relying on reliable warehousing logistics and fast manufacturing distribution, Yeasen provides more efficient services and competitive products. As the top brand of molecular enzyme in China, Yeasen has served more than 23,000 Clients & Labs, and is willing To enable success of our customers, Together to make a healthier and brighter world!

CONTENTS

01 Reagents for Life Science Research

1.1 Molecular Biology

Selection Guide

Product Line	Product Name	Cat.No.	Specifications
PCR & qPCR	2×Hieff™ PCR Master Mix (with Dye)	10102	1 mL / 5×1 mL / 50×1 mL / 100×1 mL
PCR & qPCR	2×Hieff™ PCR Master Mix (No Dye)	10103	1 mL / 5×1 mL / 50×1 mL / 100×1 mL
PCR & qPCR	2×Hieff™ Ultra-Rapid HotStart PCR Master Mix (with Dye)	10157	1 mL / 5×1 mL / 50×1 mL / 100×1 mL
PCR & qPCR	2×Hieff™ Canace™ Plus PCR Master Mix (With Dye)	10154	1 mL / 5×1 mL
PCR & qPCR	Mouse Tissue Direct PCR Kit (With Dye)	10185	50 T / 200 T
PCR & qPCR	Hieff Unicon™ Universal Blue qPCR Master Mix (Dye Based)	11184	1 mL / 5×1 mL /5×5 mL / 50×1 mL / 100×1 mL
PCR & qPCR	miRNA Universal qPCR SYBR Master Mix (by tailing A)	11171	1 mL / 5×1 mL
PCR & qPCR	qPCR TaqMan Probe Master Mix	11205	1 mL / 5 mL / 25 mL
Reverse Transcription	Hifair™ II 1st Strand cDNA Synthesis Kit (gDNA Digest plus)	11121	100 T
Reverse Transcription	Hifair™ III 1st Strand cDNA Synthesis SuperMix for qPCR (gDNA Digester Plus)	11141	10 T / 100 T
Reverse Transcription	Hifair™ miRNA 1st Strand cDNA Synthesis Kit (by tailing A)	11148	10 T / 50 T
Cloning	Hieff Clone™ Universal One Step Cloning Kit	10922	5 T / 20 T
Cloning	Hieff Clone™ Zero TOPO-TA Cloning Kit	10907	5T / 20 T
Cloning	Hieff Clone™ Zero TOPO-Blunt Cloning Kit	10909	20 T
Cloning	Gold T4 DNA Ligase (5 U/μL)	10300	1000 U / 50000 U
Cloning	FuniCut™ DpnI	15052	50 T
Cloning	TOP10 Chemically Competent Cell	11801	10×100 μL/ 100×100 μL
Cloning	DH5α Chemically Competent Cell	11802	10×100 μL / 100×100 μL
Cloning	DH5α Fast Chemically Competent Cell	11803	10×100 μL
Cloning	BL21 (DE3) Chemically Competent Cell	11804	10×100 μL / 100×100 μL
DNA&RNA Electrophoresis	YeaRed™ Nucleic Acid Gel Stain (10,000× in Water)	10202	30 μL / 500 μL
DNA&RNA Electrophoresis	GoldBand™ DL2000 DNA Marker	10501	100 T / 10×100 T
DNA&RNA Electrophoresis	GoldBand™ DL5000 DNA Marker	10504	100 T / 10×100 T
DNA&RNA Electrophoresis	GoldBand™ 100bp DNA ladder	10507	100 T / 10×100 T
DNA&RNA Electrophoresis	GoldBand™ 1kb DNA ladder	10510	100 T / 10×100 T
DNA&RNA Electrophoresis	Agarose	10208	5 g / 100 g / 500 g
In Vitro Transcription	T7 High Yield RNA Synthesis Kit	10623	50 T / 100 T / 500 T
DNA & RNA Extraction	Recombinant Deoxyribonuclease I (DNase I, RNase-free)	10325	1000 U / 5000 U
DNA & RNA Extraction	Proteinase K	10401	100 mg / 250 mg / 1 g / 5g / 100 g
DNA & RNA Extraction	Ribonuclease A (RNase A) from bovine pancreas	10407	100 mg / 1 g

10102/10103 2× Hieff™ PCR Master Mix

Features

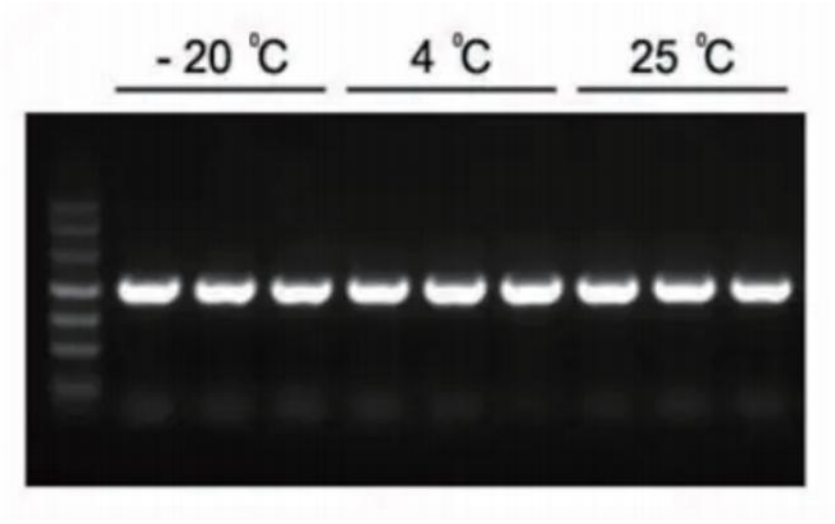
01 Convenient, ready-to-use mix

02 Thermostable—half-life is more than 40 min at 95°C

03 Generates PCR products with 3'-dA overhangs

Validation Data

Figure1. The expected 1.2 kb PCR products can beamplified with 2×Hieff™ PCR Master Mix.



The Master Mix (Cat# 10102) was stored at -20°C for 1 year following another 3 months at 4°C and 1 month at 25°C. Template: Arabidopsis genome. Annealing temperature: 60°C. Extension time: 40 sec.

Selected Product Citations

[1]Li X, Zhang Y, Xu L, et al. Ultrasensitive sensors reveal the spatiotemporal landscape of lactate metabolism in physiology and disease [published online ahead of print, 2022 Oct 22]. Cell Metab. 2022;S1550-4131(22)00453-3. doi:10.1016/j.cmet.2022.10.002(IF:31.373)

Order Information

Product Name	Cat.No.	Specifications
2×Hieff™ PCR Master Mix (with Dye)	10102	1 mL / 5×1mL / 50×1mL / 100×1mL
2×Hieff™ PCR Master Mix (No Dye)	10103	1 mL / 5×1mL / 50×1mL / 100×1mL

2× Hieff™ Ultra-Rapid HotStart PCR Master Mix (with Dye) 10157

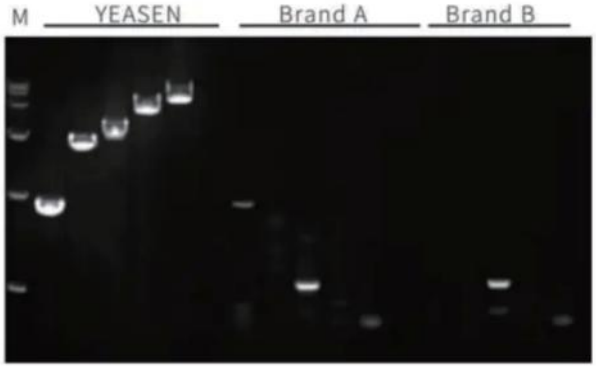
Features

01 The amplification speed is fast:
simple templates can be amplified up to 1 sec/kb

02 The Mix contains an electrophoresis indicator dye, which can be used directly after the reaction and is easy to use

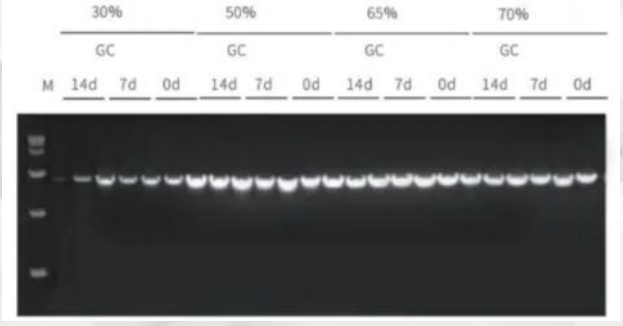
Validation Data

Figure1. The target fragments with lengths of 1, 2, 3, 4, and 8 kb were amplified by using the human gene as a template.



The PCR reaction conditions used the PCR reaction conditions recommended by our company. After the reaction, 4uL was taken for electrophoresis detection. Marker: 15000 DNA marker.

Figure2. 10157ES03 was placed at 37°C for 0d, 7d, and 14d product stability tests, and the template GC content was 30-70%.



The results show that the product performance is still stable after 14 days at 37°C, and the GC compatibility is very strong. M: 15000 DNA Markers.

10154 2×Hieff™ Canace™ Plus PCR Master Mix (With Dye)

Features

01 The Mix contains an electrophoresis indicator dye, which can be used directly after the reaction and is easy to use

02 Accuracy: The fidelity is 83 times higher than that of Taq DNA polymerase and 9 times higher than that of ordinary Pfu DNA polymerase

Validation Data

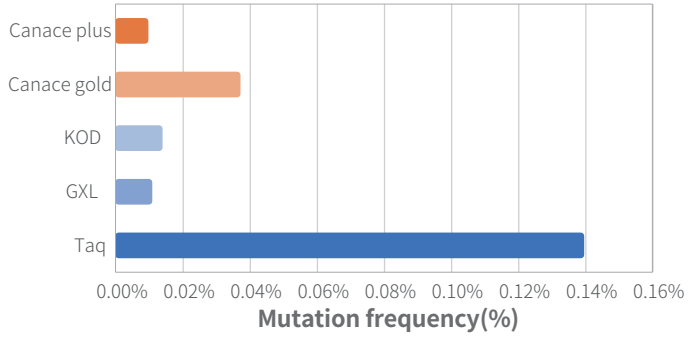


Figure1. The fidelity test

This product has 83× fidelity of Taq DNA polymerase.

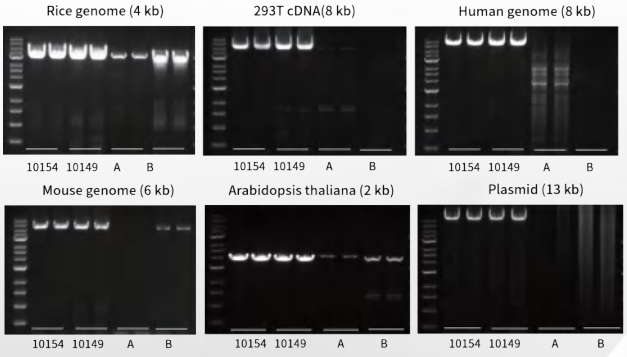


Figure2. Different templates were amplified using Cat 10154, Cat 10149 and Competitors (A and B)

The results showed that Cat 10154 has excellent amplification performance, high yield and good specificity. The amplification process was a two-step process with a speed of 30 sec/kb.

Hieff Unicon™ Universal Blue qPCR Master Mix (Dye Based) 11184

Features

01 Platform-wide

No need to alter ROX concentration using premixed colors

02 Easy to trace

Blue master mix, color shows whether sample is added

03 Fast-starting

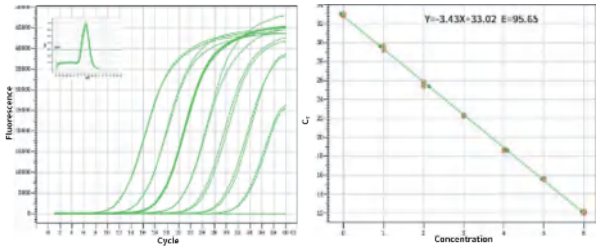
Compatible with traditionaland rapid programs; quickest 46-minute quantitative experiment

04 Good amplification performance

High amplification efficiency, good specificity, may identify single-digit copy number genes

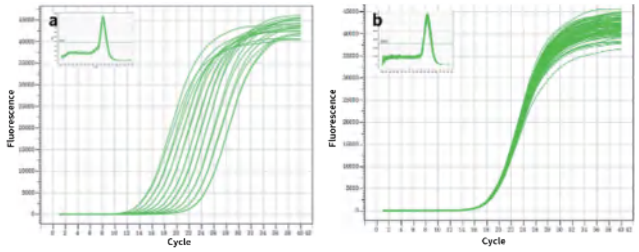
Validation Data

Figure1. High sensitivity: the ability to detect a single copy.



Hieff Unicon™ Universal Blue Master Mix can detect template levels over seven orders of magnitude with great amplification efficiency and excellent linearityacross a broad linear range. The human IL23R gene was amplified using 2 μL containing 10^0-10^6 plasmid template copies.

Figure2. High resolution and Excellent reproducibility of duplicate wells.



Hieff Unicon™ Universal Blue Master Mix accurately differentiates 2-fold changes in template concentration(a). The amplification curves of 90 replicate wells are largely overlapping, and the standard deviation of Ct values is＜0.2 for Hieff Unicon™ Universal Blue Master Mix(b).

Selected Product Citations

[1] Xia B, Shen X, He Y, et al. SARS-CoV-2 envelope protein causes acute respiratory distress syndrome (ARDS)-like pathological damages and constitutes an antiviral target. Cell Res. 2021;31(8):847-860. doi:10.1038/s41422-021-00519-4(IF:25.617)

11171 Hieff™ miRNA Universal qPCR SYBR Master Mix (by tailing A)

Features

01 Platform-wide
No need to alter ROX concentration using premixed colors

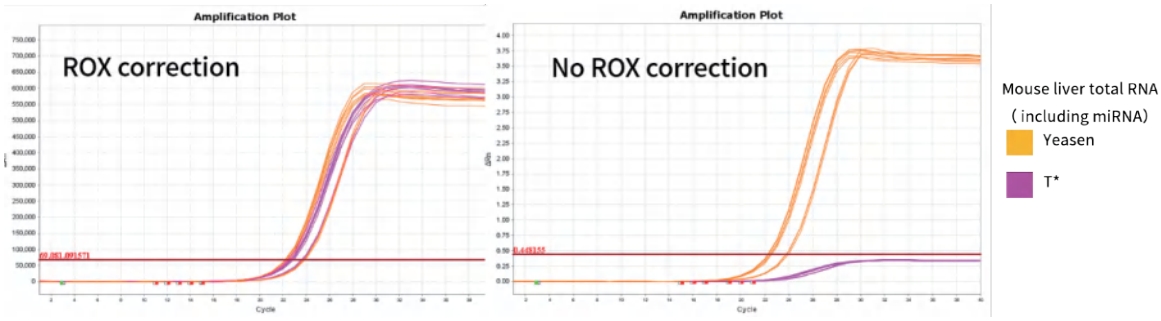
02 High sensitivity detection rate
10 pg DNA can be detected

03 High specificity
Able to distinguish single base differences between miRNAs in the same family

04 Good amplification performance
Excellent amplification efficiency

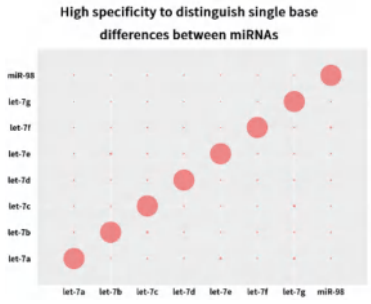
Validation Data

Figure1. Good amplification performance: excellent amplification efficiency.



miR-let-7b-5p, miR-let-7c-5p, miR-let-7e-5p, miR-let-7f-5p genes were amplified using human 293T cells and mouse liver Total RNA as templates. The results showed that compared with similar products, Hifair™ miRNA 1st Strand cDNA Synthesis Kit (Cat# 11148ES) matched the reaction system of Hieff™ miRNA Universal qPCR SYBR Master Mix (Cat# 11171ES) with excellent performance.

Figure2. High specificity: able to distinguish single base differences between miRNAs in the same family.



The human hsa-let-7 family has multiple miRNAs, with few bases that differ from each other, or even only a single base difference. Amplify these miRNAs with different primers and use Formula 2- Δ CT x 100% calculated matching rate. The results show that closely related subtype family members can be effectively distinguished.

[Note]: Cat #11171 needs to be used together with Cat# 11148.

Hifair™ III 1st Strand cDNA Synthesis SuperMix for qPCR (gDNA digester plus)

11141

Features

01 Good heat resistance

tolerates 65°C and is suitable for RNA templates with complex secondary structures

02 Efficient removal

avoid interference caused by gDNA in the template

03 High compatibility

suitable for reverse transcription of genes with different GC content and different expression abundance

04 Wide linear detection range

cDNA can be synthesized efficiently in a wide template range

Validation Data

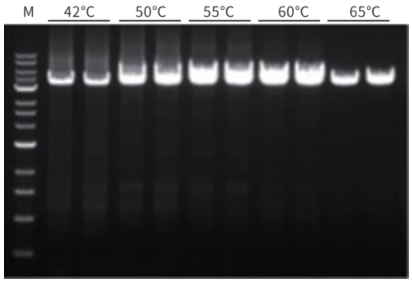


Figure1. High compatibility: genes suitable for different GC content, different expression abundance.

cDNA was synthesized using 11141ES, T brand using 300 ng of total RNA from 293T cells as template. One microliter of cDNA was used as a template to amplify 20 genes with different GC contents (25 – 65%) and different expression abundances using Yeasen fluorescent quantitative reagent.

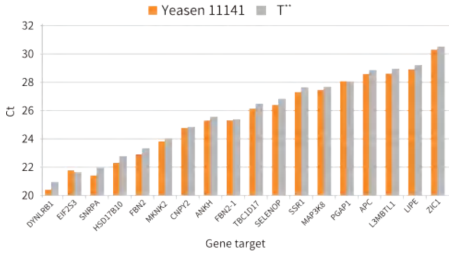


Figure2. Good heat resistance: tolerates 65°C and is suitable for RNA templates with complex secondary structures.

Reverse transcription was performed at 42°C – 65°C using 500 ng of total RNA from 293T cells as template.One microliter of cDNA was used as a template to amplify the TFRC gene (4.4 kb) using Cat# 10148ES. M: 1kb DNA ladder.

Selected Product Citations

[1] Yuan B, Peng Q, Cheng J, et al. Structure of the Ebola virus polymerase complex. Nature. 2022;610(7931):394-401. doi:10.1038/s41586-022-05271-2(IF:69.504)

[2] Bi Q, Wang C, Cheng G, et al. Microglia-derived PDGFB promotes neuronal potassium currents to suppress basal sympathetic tonicity and limit hypertension. Immunity. 2022;55(8):1466-1482.e9. doi:10.1016/j.immuni.2022.06.018(IF:43.474)

11148 Hifair™ miRNA 1st Strand cDNA Synthesis Kit (by tailing A)

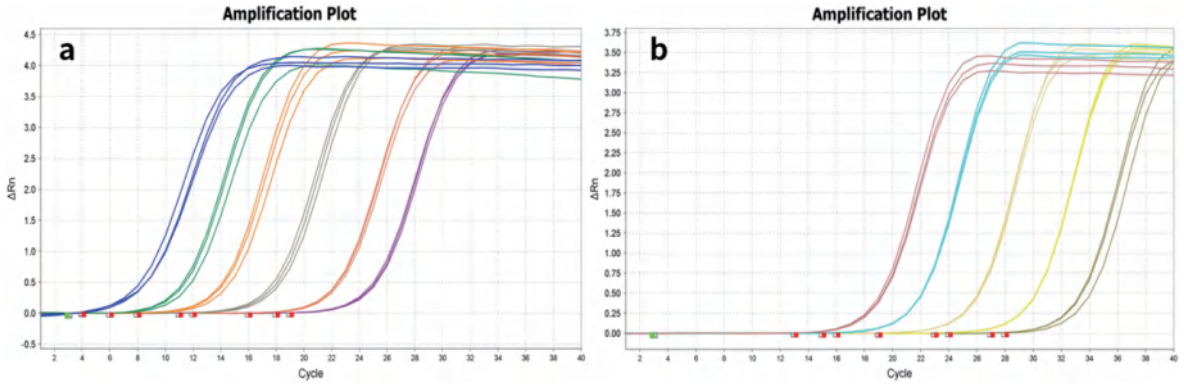
Features

01 High sensitivity detection rate: 10 pg RNA can be detected

02 High product stability: remains unaffected at 37°C for 7 days

Validation Data

Figure1. High sensitivity detection rate: 10 pg RNA can be detected.



The synthesized hsa-miR-let-7e-5p (a) and 293T cell total RNA (b) were used as templates and diluted to the following gradients: 60 copies to 606 copies (6 gradients) and 10 pg-100 ng (5 gradients). All gradient cDNA was detected.

Hieff Clone™ Universal One Step Cloning Kit 10922

Features

01 Simple
Seamlessly assemble and clone up to six DNA fragments in a single reaction

02 Flexible
Design guidelines allow assembly into any vector of your choice

03 Efficient
Efficient for ligation of one to six fragments

Validation Data

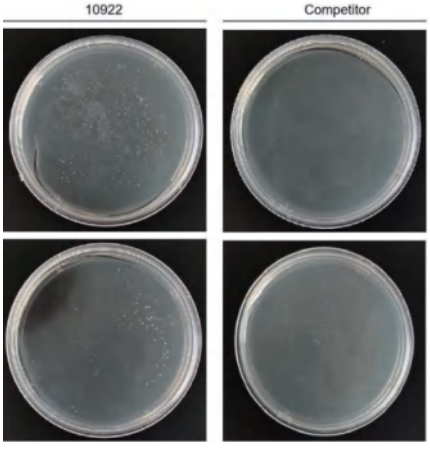


Figure1. Multi-segment linkage: performance comparison with competitive strains (plate colony).

Top half of the picture: 5 fragments+ vector;
Total segment length: 4000 bp;
Vector length: 5000bp;
Bottom half of the picture: 6 fragments+vector;
Total segment length: 5000 bp;
Vector length: 5000 bp;

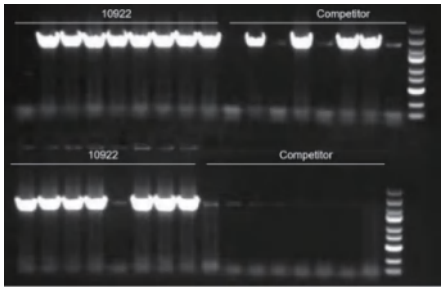


Figure2. Muti-segment linkage: performance comparision with competitive strains (colony PCR).

Top half of the picture: 5 fragments+ vector; Total segment length: 4000 bp;
Vector length: 5000bp;
Bottom half of the picture: 6 fragments+vector;Total segment length: 5000 bp;
Vector length: 5000 bp;

Selected Product Citations

[1] Ren W, Jiang Z, Zhang M, Kong L, Zhang H, Liu Y, Fu Q, Ma W. The chloroplast genome of Salix floderusii and characterization of chloroplast regulatory elements. Front Plant Sci. 2022 Aug 26;13:987443. doi: 10.3389/fpls.2022.987443(IF: 6.627).

10907 Hieff Clone™ Zero TOPO-TA Cloning Kit

Features

01 Fast: It takes only 2-5 minutes to complete the ligation reaction

02 Convenient: Simply add the target fragment

Validation Data

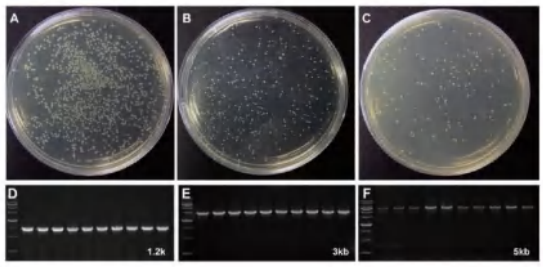


Figure1. Hieff Clone™ Zero TOPO-TA Cloning Kit can effectively clone 1-5 kb genes with 100% success.

A-C: TOPO clone transformation plates.
D-F: Electrophoresis pattern identified by PCR of insert fragments.

Selected Product Citations

[1]Qiu L, Wang Y, Tang W, et al. Activated Phosphoinositide 3-Kinase δ Syndrome: a Large Pediatric Cohort from a Single Center in China. J Clin Immunol. 2022;42(4):837-850. doi:10.1007/s10875-022-01218-4(IF:8.317)

Hieff Clone™ Zero TOPO-Blunt Cloning Kit 10909

Features

01 Fast: It takes only 2-5 minutes to complete the ligation reaction

02 Convenient: Simply add the target fragment

Validation Data

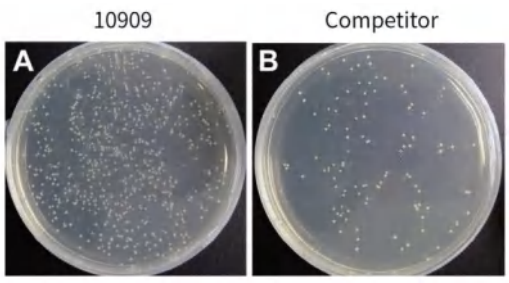


Figure1. Hieff Clone™ Zero TOPO-Blunt Cloning Kit has higher ligation efficiency than similar products.

Under the same system, the efficiency of cloning 3 kb of the target gene Hieff Clone™ Zero TOPO-Blunt Cloning Kit was higher

Selected Product Citations

[1] Tao R, Wang Y, Jiao Y, Hu Y, Li L, Jiang L, Zhou L, Qu J, Chen Q, Yao S. Bi-PE: bi-directional priming improves CRISPR/Cas9 prime editing in mammalian cells. Nucleic Acids Res. 2022 Jun 24;50(11):6423-6434. doi: 10.1093/nar/gkac506(IF: 19.16).

10202 YeaRed™ Nucleic Acid Gel Stain (10,000× in Water)

Features

01 High Sensitivity — Comparable to EB sensitivity

02 Strong Stability — Microwaveable, stored at room temperature

03 Wide applicability — Applicable for DNA or RNA staining

04 Perfect Replacement — With the same spectral properties as EB

05 Easy to Dispose — Waste Yeared can be directly disposed of without environmental pollution

06 Safe and Non-Toxic — Ames test shows no caccinogenic toxicity

Validation Data

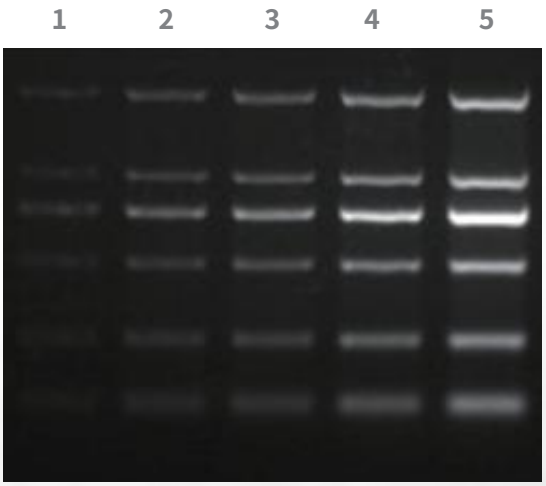


Figure1 Agarose gel electrophoresis

Electrophoresis conditions: 120 V, 30 min.
1-5 lanes: 1-5μl GoldBand™ DL2000 DNA Marker(Cat 10501)

Selected Product Citations

[1] Wang Y, Fu Z, Li X, et al. Cytoplasmic DNA sensing by KU complex in aged CD4⁺ T cell potentiates T cell activation and aging-related autoimmune inflammation. Immunity. 2021;54(4):632-647.e9. doi:10.1016/j.immuni.2021.02.003(IF:31.745)

GoldBand™ DNA Marker/Ladder 10501/10504/10507/10510

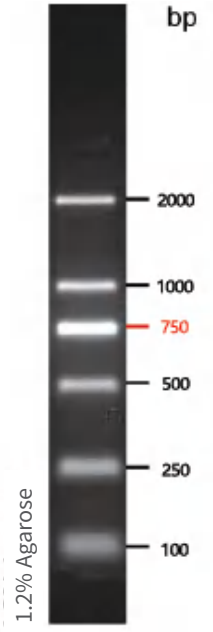
Features

- Distinct bands composed of single DNA fragment purified by chromatography, a clear band can be obtained.

Validation Data

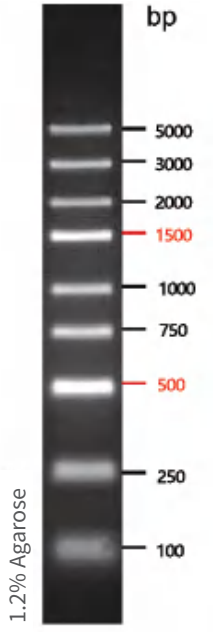
Figure1. Agarose gel electrophoresis

2000 DNA Marker



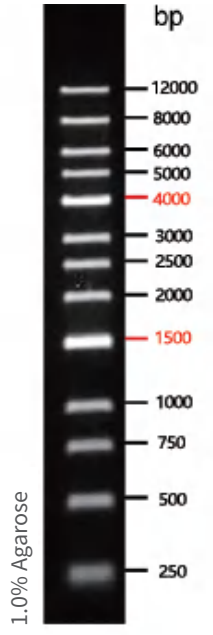
1×TAE,5μL/lane
7V/cm,30min

5000 DNA Marker



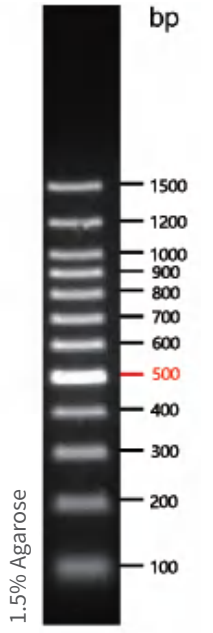
1×TAE,5μL/lane
7V/cm,30min

1kb DNA Marker



1×TAE,5μL/lane
7V/cm,45min

100bp DNA Marker



1×TAE,5μL/lane
7V/cm,45min

Order Information

Product Name	Cat.No.	Specifications
GoldBand™ DL2000 DNA Marker	10501	100 T / 10×100 T
GoldBand™ DL5000 DNA Marker	10504	100 T / 10×100 T
GoldBand™ 100bp DNA ladder	10507	100 T / 10×100 T
GoldBand™ 1kb DNA ladder	10510	100 T / 10×100 T

10623 T7 High Yield RNA Synthesis Kit

Features

01 Up to 180 μg of RNA per reaction from 1 μg of the control template

02 Optimized reaction system for the IVT process

03 Decrease the dsRNA production

04 Higher RNA integrity and purity

Validation Data

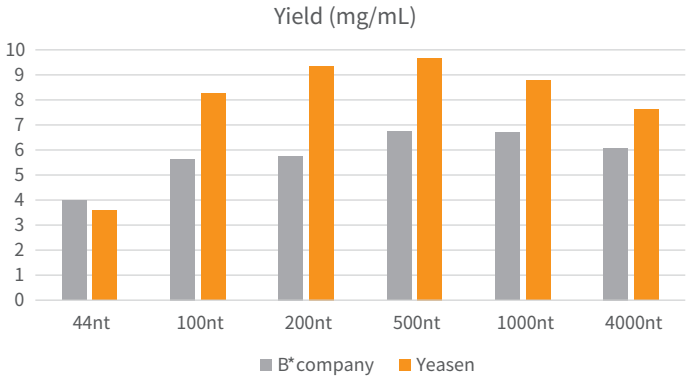
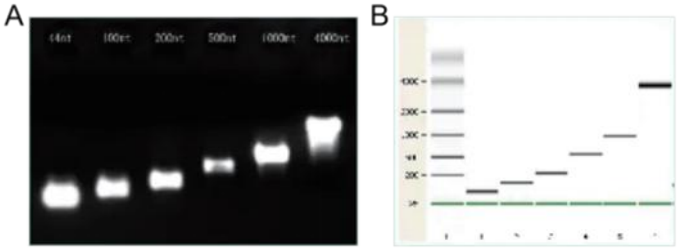


Figure1.Standard RNA was synthesized in vitro using T7 RNA synthesis kit.

The reaction was incubated in a PCR instrument at 37°C for 2h and then purified by magnetic beads (Cat 12602). The yield result was analyzed by Nano-Drop spectrophotometer as shown.



Figures2. The transcription demonstration of different lengths of RNA by T7 kit

A:Electrophoretogram; B: Capillary electrophoresis diagram.

01 Reagents for Life Science Research

1.2 Protein Research

Selection Guide

Product Line	Product Name	Cat.No.	Specifications
Protein Electrophoresis	GoldBand™ 3-color Low Range Protein Marker (2.7-40 kDa)	20344	250 μL / 2×250 μL / 10×250 μL
Protein Electrophoresis	GoldBand™ Plus 3-color High Range Protein Marker(25-300 kDa)	20347	250 μL / 2×250 μL / 10×250 μL
Protein Electrophoresis	GoldBand™ Plus 3-color Regular Range Protein Marker (8-180 kDa)	20350	250 μL / 2×250 μL / 10×250 μL
Protein Electrophoresis	Precast Protein Plus Gel, 4-12%, 10 wells, Hepes-Tris	36249	1 box (10 gels)
Protein Electrophoresis	Precast Protein Plus Gel, 4-20%, 10 wells, Hepes-Tris	36250	1 box (10 gels)
Protein Electrophoresis	Precast Protein Plus Gel, 4-12%, 15 wells, Hepes-Tris	36255	1 box (10 gels)
Protein Electrophoresis	Precast Protein Plus Gel, 4-20%, 15 wells, Hepes-Tris	36256	1 box (10 gels)
Protein Electrophoresis	Precast Running Buffer, 2 L (Powder)	36257	2 L
Protein Electrophoresis	Precast Running Buffer for Native PAGE, 2 L (Powder)	36258	2 L
Protein Electrophoresis	PAGE Gel Quick Preparation Kit (8%)	20324	125 mini gels
Protein Electrophoresis	PAGE Gel Quick Preparation Kit (10%)	20325	125 mini gels
Protein Electrophoresis	PAGE Gel Quick Preparation Kit (12.5%)	20326	125 mini gels
Protein Electrophoresis	PAGE Gel Quick Preparation Kit (15%)	20327	125 mini gels
Protein Quantification	BCA Protein Quantification Kit	20201	500 T / 2500 T / 5000 T
Protein Quantification	Bradford Protein Quantification Kit	20202	500 T / 2500 T
Protein Quantification	Commassie Blue Fast Stain Solution(8 mins)	20309	8 ml (125×)
Western Blot	Super ECL Detection Reagent	36208	100 mL / 500 mL
Western Blot	Enhanced ECL Chemiluminescent Substrate Kit	36222	100 mL / 500 mL
Western Blot	SuperSignal SuperDura Extended Duration Substrate	36223	100 mL / 500 mL
Western Blot	SuperSignal MaxiSignal Maximum Sensitivity Substrate	36224	100 mL / 500 mL
Western Blot	Fast Blocking Western	36122	100 mL / 500 mL
IP & Co-IP	rProtein A/G MagBeads (IP Grade)	36417	1 mL / 5 mL
IP & Co-IP	Anti-DYKDDDDK (Flag) MagBeads	20565	500 μL / 1 mL / 5 mL
IP & Co-IP	Anti-DYKDDDDK (Flag) Affinity Gel	20585	100 μL / 1 mL / 5 mL / 25 mL / 100 mL
IP & Co-IP	3×Flag-tag Peptide	20571	4 mg / 25 mg
IP & Co-IP	Flag-tag Peptide	20572	4 mg / 25 mg
IP & Co-IP	Anti-HA Affinity Gel	20586	1 mL / 5 mL / 25 mL / 100 mL
IP & Co-IP	HA Tag Peptide	20574	5 mg / 25 mg
IP & Co-IP	Anti-GFP MagBeads	20564	500 μL / 1 mL / 5 mL
IP & Co-IP	Anti-Myc Affinity Gel	20587	1 mL / 5 mL / 25 mL / 100 mL
IP & Co-IP	c-Myc Tag Peptide	20573	5 mg / 25 mg
IP & Co-IP	Anti-V5 Affinity Gel	20588	1 mL / 5 mL / 25 mL / 100 mL
IP & Co-IP	V5 Tag Peptide	20575	5 mg / 25 mg
IP & Co-IP	Anti-His Affinity Gel	20589	1 mL / 5 mL / 25 mL / 100 mL
IP & Co-IP	6×His Tag Peptide	20576	5 mg / 25 mg

Protein Marker 20344/20347/20350

Features

01 Bright color- three color predye,each strip average concentration of 2.5 μg

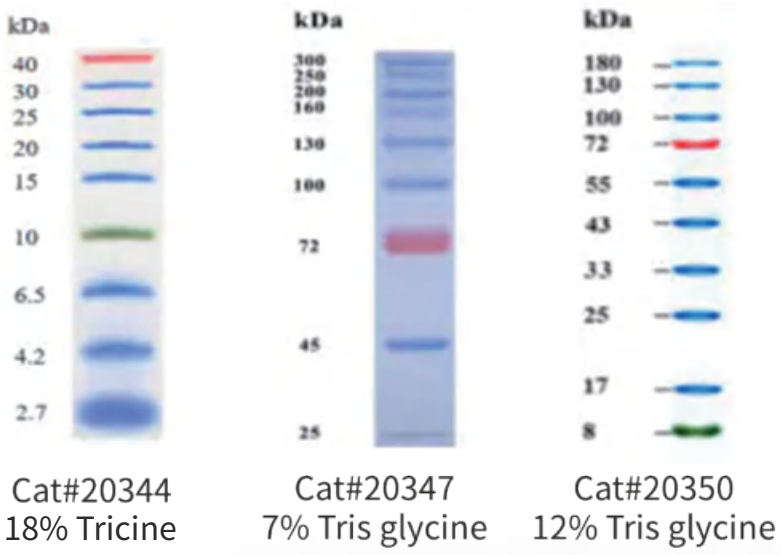
02 Lower amount of this product into the gel hole - mini-gel: 3-5 μL

03 Stable performance - 50°C for 20 h, no degradations

04 Long shelf life - can be stored at -15°C ~ -25°C for two years

Validation Data

Figure1 SDS-PAGE electrophoresis diagram



Cat#20344 18% Tricine

Cat#20347 7% Tris glycine

Cat#20350 12% Tris glycine

Order Information

Product Name	Cat.No.	Specifications
GoldBand™ 3-color Low Range Protein Marker (2.7-40 kDa)	20344	250 μL / 2×250 μL / 10×250 μL
GoldBand™ Plus 3-color High Range Protein Marker(25-300 kDa)	20347	250 μL / 2×250 μL / 10×250 μL
GoldBand™ Plus 3-color Regular Range Protein Marker (8-180 kDa)	20350	250 μL / 2×250 μL / 10×250 μL

36249/36250/36255/36256/36257/26258 Precast Protein Plus Gel

Features

Easy to use
ready to use; Tear off the adhesive tape from the bottom of the plastic board
01

Wide range of applications
compatible with denatured protein and natural protein
02

Clear band
the special treatment of plastic plates greatly reduces protein adsorption
03

Time-saving
the experiment can be completed in 18 minutes at the fastest
04

Validation Data

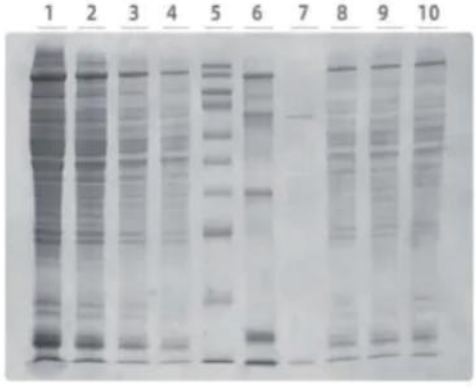


Figure1 The SDS-PAGE electrophoretogram of Precast Protein Plus(Cat#36250)

1: Rat liver tissue(100 μg);
2: Rat liver tissue(50 μg);
3: Rat liver tissue(20 μg);
4: Rat liver tissue(10 μg);
5,6: Marker;
7: BSA;
8,9,10: E.coli lysates

Order Information

Product Name	Cat.No.	Specifications
Precast Protein Plus Gel, 4-12%, 10 wells, Hepes-Tris	36249	1 box (10 gels)
Precast Protein Plus Gel, 4-20%, 10 wells, Hepes-Tris	36250	1 box (10 gels)
Precast Protein Plus Gel, 4-12%, 15 wells, Hepes-Tris	36255	1 box (10 gels)
Precast Protein Plus Gel, 4-20%, 15 wells, Hepes-Tris	36256	1 box (10 gels)
Precast Running Buffer, 2 L (Powder)	36257	2 L
Precast Running Buffer for Native PAGE, 2 L (Powder)	36258	2 L

BCA Protein Quantification Kit 20201

Features

High sensitivity

a minimum detection protein of 0.2 μg, the lower limit of detection concentration reaches 10 μg/mL

Faster speed

it is about 4 times faster than the traditional Lowry method

Wide linear range

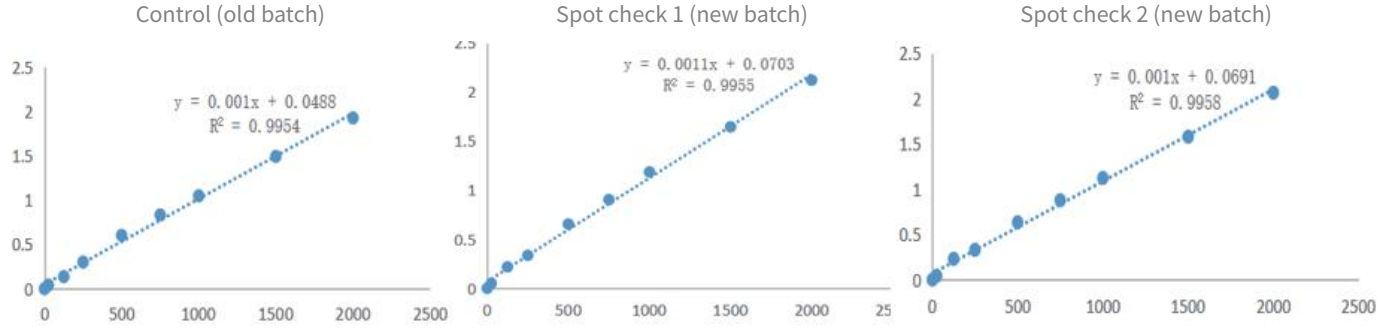
there is a good linear range in the concentration range of 20-2000 μg/mL

Wide compatibility

it is not affected by the chemicals in most of the samples

Validation Data

Figure1. Good linear range of BCA Protein Quantification Kit



The R^2 values of standard curves among different batches were all above 0.995.

Selected Product Citations

[1] Chen P, Wang W, Liu R, et al. Olfactory sensory experience regulates gliomagenesis via neuronal IGF1. Nature. 2022;606(7914):550-556. doi:10.1038/s41586-022-04719-9(IF:49.962)

[2] Liu Y, Liu Q, Zhao L, et al. Essential role of membrane vesicles for biological activity of the bacteriocin micrococcin P1. J Extracell Vesicles. 2022;11(4):e12212. doi:10.1002/jev2.12212(IF:25.841)

36208/36222/36223/36224 ECL Series Luminescence Kit

Features

Excellent sensitivity
can detect pick to low fick grade antigens

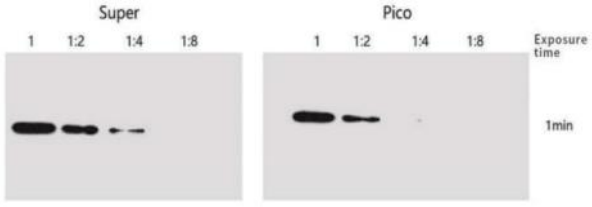
Higher signal to-noise ratio
precise luminescent substrate reduces background

Greatly save antibody
optimized substrate system, higher antibody binding force

Excellent stability
new oxidant, stable storage at 4°C for one year

Excellent cost performance
higher performance lower price

Validation Data



Yeasen ECL reagent has better use effect than other brands of the same level of products.

Figure1. Comparison of detection effect between Yeasen Super substrate and Pico substrate of the same level of other brands.

Selected Product Citations

[1] Wang Z, Lu Z, Lin S, et al. Leucine-tRNA-synthase-2-expressing B cells contribute to colorectal cancer immuno-evasion. Immunity. 2022;55(6):1067-1081.e8. doi:10.1016/j.immuni.2022.04.017(IF:43.474)

[2] Yao J, Wu D, Zhang C, et al. Macrophage IRX3 promotes diet-induced obesity and metabolic inflammation. Nat Immunol. 2021;22(10):1268-1279. doi:10.1038/s41590-021-01023-y(IF:25.606)

Order Information

Product Name	Cat.No.	Specifications
Super ECL Detection Reagent	36208	100 mL / 500 mL
Enhanced ECL Chemiluminescent Substrate Kit	36222	100 mL / 500 mL
SuperSignal SuperDura Extended Duration Substrate	36223	100 mL / 500 mL
SuperSignal MaxiSignal Maximum Sensitivity Substrate	36224	100 mL / 500 mL

Anti-DYKDDDDK (Flag) Affinity Gel 20585

Features

Specific
highly specific monoclonal antibody

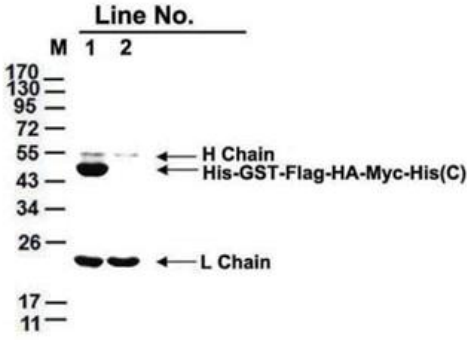
high yield and high purity

Versatile
It can be used for protein purification or Co-IP

Convenient
reagents and peptide to elute are available separately

Validation Data

Figure1. The SDS-PAGE gel electrophoresis results of Protein purification with Yeasen Anti-Flag Affinity Gel.



The results show that the product has high purification efficiency.
Line 1: electrophoresis bands were purified by adding enterobacter lysate; Line 2: negative control

Selected Product Citations

[1] Lin J, Jiang X, Dong M, et al. Hepatokine Pregnancy Zone Protein Governs the Diet-Induced Thermogenesis Through Activating Brown Adipose Tissue. Adv Sci (Weinh). 2021;8(21):e2101991. doi:10.1002/advs.202101991(IF:16.806)

[2] Wang C, Huang J, Zhang J, et al. DNA polymerase epsilon interacts with SUVH2/9 to repress the expression of genes associated with meiotic DSB hotspot in Arabidopsis. Proc Natl Acad Sci U S A. 2022;119(41):e2208441119. doi:10.1073/pnas.2208441119(IF:12.779)

01 Reagents for Life Science Research

1.3 Cell Culture & Analysis

Selection Guide

Product Line	Product Name	Cat.No.	Specifications
Transfection	Hieff Trans™ Liposomal Transfection Reagent	40802	100 μL / 0.5 mL / 1.0 mL / 5×1 mL
Transfection	Hieff Trans™ in vitro siRNA/miRNA Transfection Reagent	40806	0.1 mL / 0.5 mL / 1 mL
Transfection	Polyethylenimine Linear(PEI) MW40000 (rapid lysis)	40816	5 mg / 100 mg / 1 g
Mycoplasma Detection & Elimination	GMyc-PCR Mycoplasma Test Kit	40601	10 assays / 20 assays
Mycoplasma Detection & Elimination	MycAway™ -Color One-Step Mycoplasma Detection Kit UNG Plus	40612	5 T / 25 T / 100 T
Mycoplasma Detection & Elimination	Treatment (1000×) - Mycoplasma Elimination Reagent	40607	100 μL / 1 mL / 5×1 mL
Mycoplasma Detection & Elimination	Prophylactic (2000×) - Mycoplasma Prevention Reagent	40608	1 mL / 5×1 mL
Mycoplasma Detection & Elimination	MycGuar™-1 Solution (100×), for Disinfecting Water Bath of CO2 Incubator	40609	100 mL
Mycoplasma Detection & Elimination	MycGuar™-2 Solution (500×), for Disinfecting Ordinary Water Bath	40610	100 mL
Apoptosis & Phagocytosis Detection	TUNEL Apoptosis Detection Kit (FITC)	40306	20 T / 50 T / 100 T
Apoptosis & Phagocytosis Detection	TUNEL Apoptosis Detection Kit (Alexa Fluor 488)	40307	20 T / 50 T / 100 T
Apoptosis & Phagocytosis Detection	TUNEL Apoptosis Detection Kit (Alexa Fluor 640)	40308	20 T / 50 T / 100 T
Apoptosis & Phagocytosis Detection	Annexin V-FITC/PI Apoptosis Detection Kit	40302	20 T / 50 T / 100 T
Apoptosis & Phagocytosis Detection	Annexin V-EGFP/PI Apoptosis Detection Kit	40303	20 T / 50 T / 100 T
Apoptosis & Phagocytosis Detection	Annexin V-Alexa Fluor 647/PI Apoptosis Detection Kit	40304	20 T / 50 T / 100 T
Apoptosis & Phagocytosis Detection	Annexin V-Alexa Fluor 488/PI Apoptosis Detection Kit	40305	20 T / 50 T / 100 T
Organoids Research	Ceturegel™ Matrix LDEV-Free	40183	5 mL / 10 mL
Organoids Research	Ceturegel™ Matrix Phenol Red-Free, LDEV-Free	40184	5 mL / 10 mL
Organoids Research	Ceturegel™ Matrix GFR, LDEV-Free	40185	5 mL / 10 mL
Organoids Research	Ceturegel™ Matrix GFR, Phenol Red-Free, LDEV-Free	40186	5 mL / 10 mL
Organoids Research	Ceturegel™ Matrix High Concentration, LDEV-Free	40187	5 mL / 10 mL
Organoids Research	Ceturegel™ Matrix High Concentration, Phenol Red-Free, LDEV-Free	40188	5 mL / 10 mL

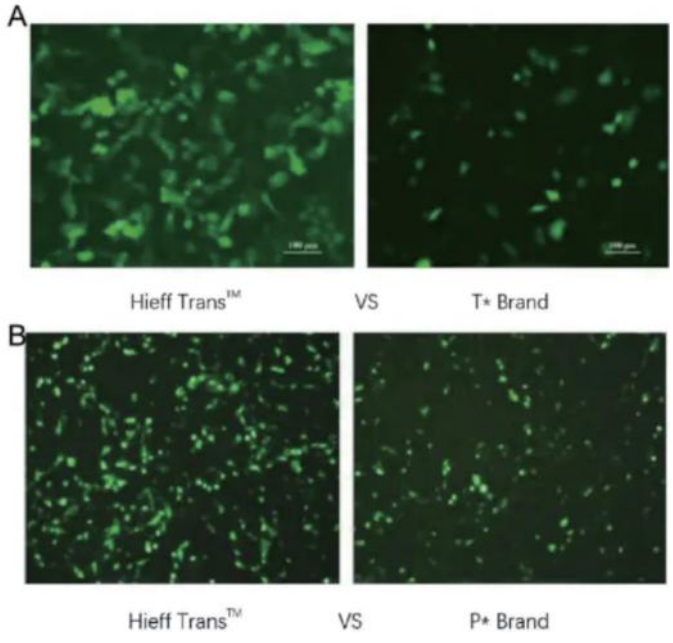
40802 Hieff Trans™ Liposomal Transfection Reagent

Features

- **Exceptional Efficiency:** Superior transfection performance in the broad range of cell lines, including transient transfection and stable transfection
- **Wide Adaptability:** Excellent transfection efficiency in a variety of cell lines and high levels of recombinant protein expression
- **Low Toxicity:** The activities of the diverse cells almost unaffected by transfection reagents from YEASEN
- **Simple Operation:** Proven efficacy in the presence of serum—eliminates the need to change media following transfection
- **Cost Effective:** Competitive transfection effect with more affordable prices

Validation Data

Figure1. Hieff Trans™ Liposome Transfection Reagent outperforms the transfection reagent from the competitive brand



Each reagent was used to transfect the target cell line (Hela cell line in Figure 1a, DF-1 cell line in Figure 1b) in a 96-well format. GFP expression was analyzed 48 hours posttransfection. Hieff Trans™ Liposome Transfection Reagent provided higher GFP transfection efficiency than the competitive brand products.

Selected Product Citations

[1] Liu R, Yang J, Yao J, Zhao Z, He W, Su N, Zhang Z, Zhang C, Zhang Z, Cai H, Zhu L, Zhao Y, Quan S, Chen X, Yang Y. Optogenetic control of RNA function and metabolism using engineered light-switchable RNA-binding proteins. Nat Biotechnol. 2022 Jan 3. doi: 10.1038/s41587-021-01112-1. Epub ahead of print. PMID: 34980910. (IF:54.908)

MycAway™ -Color One-Step Mycoplasma Detection Kit UNG Plus 40612

Features

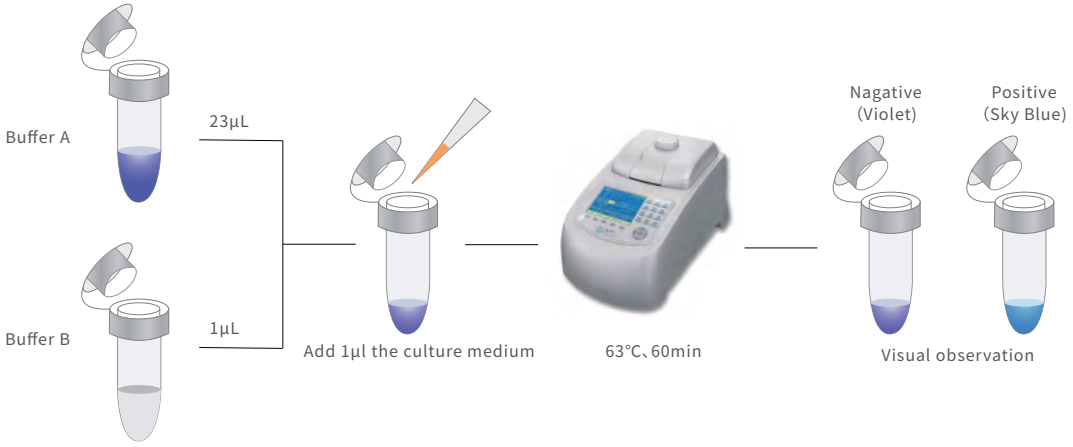
01 The one-step operation results in less than 60 minutes

02 Use a water bath or PCR instrument to test

03 27 mycoplasma species were accurately detected by the kit including 8 common species

04 Results just identified by the visual inspection

Workflow



Validation Data

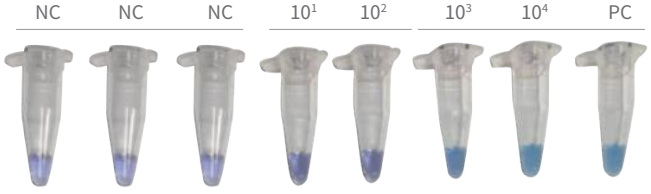


Figure1. The detection results of serial diluted positive control

[Note]: NC: Negative control; PC: Positive control .

Selected Product Citations

[1] Shi N, Yang Q, Zhang H, et al. Restoration of dystrophin expression in mice by suppressing a nonsense mutation through the incorporation of unnatural amino acids. Nat Biomed Eng. 2022;6(2):195-206. doi:10.1038/s41551-021-00774-1(IF:25.671)

40607 MycAway™ Prophylactic (2000×)-Mycoplasma Prevention Reagent

Features

Ultra-low Toxicity
Only block the bacterial protein synthesis rather than animal cells

Excellent Stability
Stored at 15°C ~ -25°C for 18 months

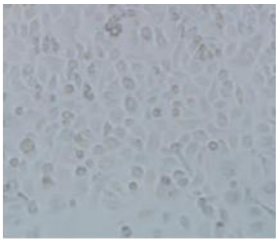
Facilitated Operation
Just added into the culture medium

Rapid Onset
Take effect in 3 days

Wide Applicability
Effective against most mycoplasmas

Validation Data

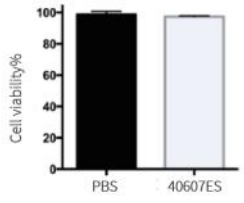
Before the treatmernt



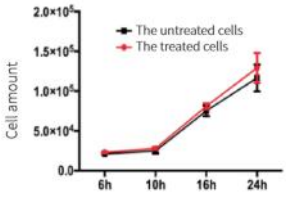
After the treatmernt

Figure1. The Removal Effect

After the treatment with 40607, almost all the mycoplasma are removed and the cells return to the normal growth.



24 hours after the treatmernt



Incubation time

Figure2. The Cytotoxicity

Upper left: The cells are treated with PBS and 40607 seperately for 24 hours and then the cell viability (%) are tested. There is no change in cell viability (%) after treatment with 40607 when compared with the PBS.

Upper right: Compared with the untreated cells, the number of cells showed little change within 24 h when treated with 40607.

Selected Product Citations

[1] Sun C, Kang YF, Liu YT, et al. Parallel profiling of antigenicity alteration and immune escape of SARS-CoV-2 Omicron and other variants. Signal Transduct Target Ther. 2022;7(1):42. Published 2022 Feb 8. doi:10.1038/s41392-022-00910-6

TUNEL Apoptosis Detection Kit 40306/40307/40308

Features

01 Be appropriate for cell late-phase apoptosis detection

02 Generated a brigh and photostable fluorescent signal

03 Be available with mutiple color reagent

Validation Data

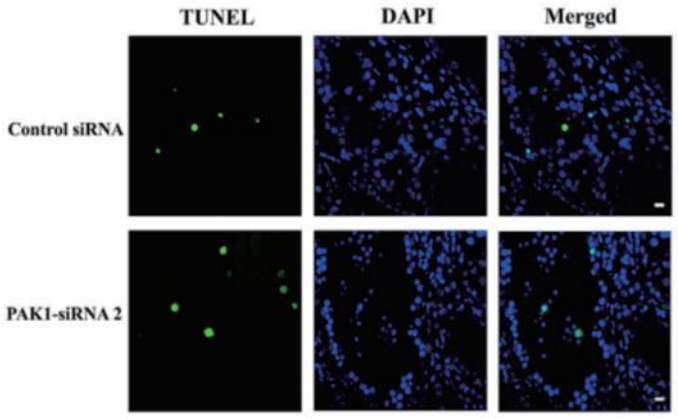


Figure1. Fluorescent staining results of the TUNEL Apoptosis Detection Kit

Selected Product Citations

[1] Chen J, He W, Hu X, et al. A role for ErbB signaling in the induction of reactive astrogliosis. Cell Discov. 2017;3:17044. Published 2017 Dec 5. doi:10.1038/celldisc.2017.44(IF:10.849)

[2] Pan S, Pei L, Zhang A, et al. Passion fruit-like exosome-PMA/Au-BSA@Ce6 nanovehicles for real-time fluorescence imaging and enhanced targeted photodynamic therapy with deep penetration and superior retention behavior in tumor. Biomaterials. 2020;230:119606. doi:10.1016/j.biomaterials.2019.119606(IF:10.273)

Order Information

Product Name	Cat.No.	Specifications
TUNEL Apoptosis Detection Kit (FITC)	40306	20 T / 50 T / 100 T
TUNEL Apoptosis Detection Kit (Alexa Fluor 488)	40307	20 T / 50 T / 100 T
TUNEL Apoptosis Detection Kit (Alexa Fluor 640)	40308	20 T / 50 T / 100 T

40302/40303/40304/40305 Annexin V/PI Apoptosis Detection Kit

Features

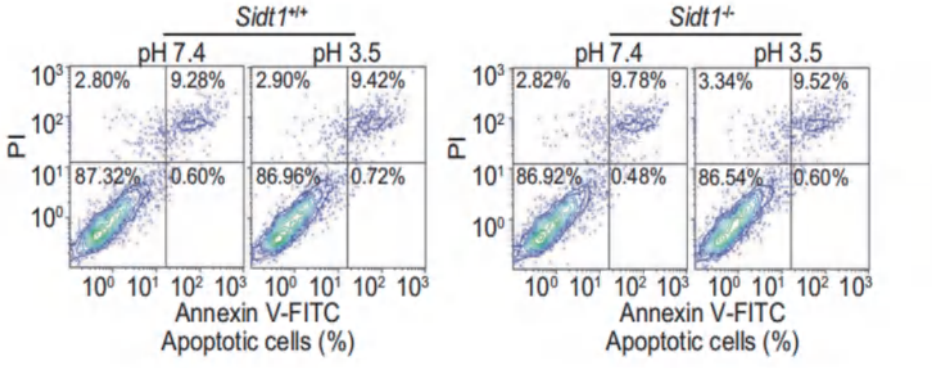
01 Be appropriate for cell early-phase apoptosis detection

02 Generated a brigh and photostable fluorescent signal

03 Be available with mutiple color reagent

Validation Data

Figure1. The flow results of the Annexin V/PI Apoptosis Detection Kit.



Selected Product Citations

[1] Du Y, Liang Z, Wang S, et al. Human pluripotent stem-cell-derived islets ameliorate diabetes in non-human primates. Nat Med. 2022;28(2):272-282. doi:10.1038/s41591-021-01645-7(IF:53.440)

[2] Long Z, Sun C, Tang M, et al. Single-cell multiomics analysis reveals regulatory programs in clear cell renal cell carcinoma. Cell Discov. 2022;8(1):68. Published 2022 Jul 19. doi:10.1038/s41421-022-00415-0(IF:38.079)

Order Information

Product Name	Cat.No.	Specifications
Annexin V-FITC/PI Apoptosis Detection Kit	40302	20 T / 50 T / 100 T
Annexin V-EGFP/PI Apoptosis Detection Kit	40303	20 T / 50 T / 100 T
Annexin V-Alexa Fluor 647/PI Apoptosis Detection Kit	40304	20 T / 50 T / 100 T
Annexin V-Alexa Fluor 488/PI Apoptosis Detection Kit	40305	20 T / 50 T / 100 T

Ceturegel™ basement membrane matrix with High Quality and Multipurpose

Features

High safety

no LDEV (lactate dehydrogenase increased virus)

01

02

Concentration diversity

the concentration range is between 8~20 mg/ml

Low endotoxin

endotoxin content <8 EU/ml

03

04

Good batch stability

strict production quality inspection process to ensure stable performance between batches

Contamination detection

no mycoplasma, bacteria and fungi residues have been detectedl

05

06

High single batch output

single batch output is above the 10L level

Compatibility

Compatible with any type of cell culture medium

07

Validation Data

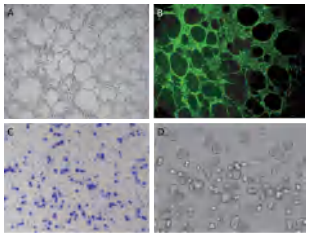


Figure1. Photomicrograph results of matrix

(A)Angiogenesis results graph; (B) Immunofluorescence staining of blood vessels; (C) Results of crystal violet staining after cell invasion; (D) 3D cell culture results

Selected Product Citations

[1]Liu Y, Yang C, Chen S, Liu W, Liang J, He S, Hui J. Cancer-derived exosomal miR-375 targets DIP2C and promotes osteoblastic metastasis and prostate cancer progression by regulating the Wnt signaling pathway. Cancer Gene Ther. 2022 Nov 25. doi: 10.1038/s41417-022-00563-1. Epub ahead of print. PMID: 36434177.

[2] Yao X . Down-Regulation of lncRNA MBNL1-AS1 Promotes Tumor Stem Cell-like Characteristics and Prostate Cancer Progression through miR-221-3p/CDKN1B/C-myc Axis[J]. Cancers, 2022, 14.

Order Information

Product Name	Cat.No.	Specifications
Ceturegel™ Matrix LDEV-Free	40183	5 mL / 10 mL
Ceturegel™ Matrix Phenol Red-Free, LDEV-Free	40184	5 mL / 10 mL
Ceturegel™ Matrix GFR, LDEV-Free	40185	5 mL / 10 mL
Ceturegel™ Matrix GFR, Phenol Red-Free, LDEV-Free	40186	5 mL / 10 mL
Ceturegel™ Matrix High Concentration, LDEV-Free	40187	5 mL / 10 mL
Ceturegel™ Matrix High Concentration, Phenol Red-Free, LDEV-Free	40188	5 mL / 10 mL

01 Reagents for Life Science Research

1.4 Animal Model

1.5 Others

Selection Guide

Product Line	Product Name	Cat.No.	Specifications
In Vivo Imaging	D-Luciferin, Sodium Salt	40901	100 mg / 500mg / 1g / 5 g / 10 g
In Vivo Imaging	D-Luciferin, Potassium Salt	40902	100 mg / 500mg / 1g / 5 g
Reagents for Model Creation	Dextran Sulfate Sodium Salt (DSS) MW:36000~50000	60316	25 g / 100 g / 500 g / 1 kg
Antibiotic	Ampicillin, Sodium Salt	60203	10 g / 100 g
Antibiotic	Chloramphenicol, USP Grade	60205	5 g / 25 g / 100 g
Antibiotic	Kanamycin Sulfate	60206	10 g / 100 g
Antibiotic	Neomycin Sulfate	60207	25 g / 100 g
Antibiotic	Puromycin (Solution 10 mg/mL)	60209	1×1 mL / 5×1 mL / 10×1 mL / 50×1 mL
Antibiotic	Tetracyclin HCl	60212	25 g / 100 g
Antibiotic	G418 Sulfate (Geneticin)	60220	1 g / 5 g
Antibiotic	Hygromycin B	60225	1 g / 10 g

60316 Dextran Sulfate Sodium Salt (DSS) MW:36000~50000

Features

- The protocols are easy to be implemented
- The DSS UC model closely resembles human UC symptoms with high repeatability
- Various characteristic symptoms can be induced by controlling the administrated DSS dose, which was unique for the DSS UC model
- The DSS UC model can be generated with a variety of widely used model animals, such as mice, rats, zebrafish, pigs, fruit flies, etc
- The IBD-induced colitis-associated cancer (CAC) model can be created with the combined use of azoxymethane (AOM)

Validation Data

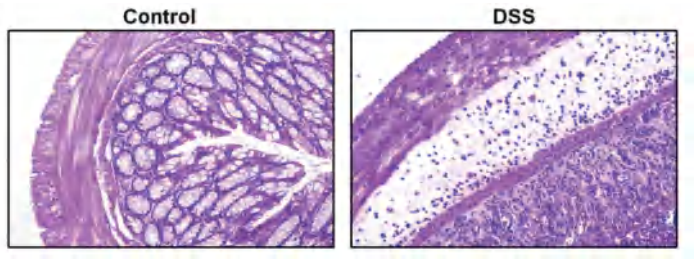


Figure1. H&E staining results of DSS acute colitis sections

Animal: BALB/c mice, female, 6-8 weeks, 25 g
Method: 3.5% DSS for 7 days

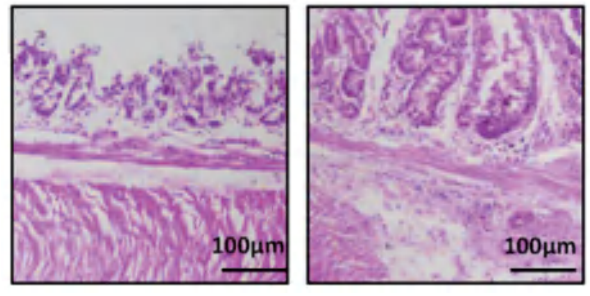


Figure2. H&E staining results of colitis-associated cancer sections

Animal: BALB/c mice, male,7 weeks old
DSS concentration: 2.5%
AOM concentrtion:10 mg/kg
Experiment period:10 weeks

Selected Product Citations

[1] Li Zhao, Fei Wang,Zhengwei Cai,et al.Improving drug utilization platform with injectable mucoadhesive hydrogel for treating ulcerative colitis[J].chemical engineering journal.424(2021)130464.(IF=16.744)

Antibiotics

Features

- Standardized production, using factory mass production mode
- Wide range of applications, which can be used in the fields of molecular biology and biochemical experimental research of tissue culture
- Customer group involved a wide range of institutes and biological companies
- To ensure product quality stability, the deviation between batches is controlled within 1%

Validation Data

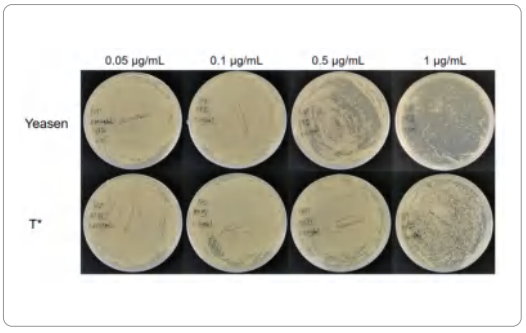


Figure1. Yeast plate growth chart (Cat# 60231)

Experimental strain:GS115
Usage amount: 0.05 μg/mL、0.1 μg/mL、0.5 μg/mL、1 μg/mL
Treatment: 3-5 Days at 30°C
The upper row is the yeasen product, and the lower row is the brand T *

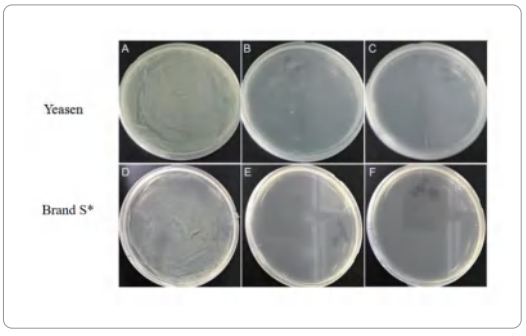


Figure2. Colony growth of E. coli on hygromycin resistant plates with different concentrations, Yeasen and brand S* have the same effect (Cat# 60224)

Experimental strain: E. coli
Note: A-C are brand S* hygromycin 20 μg/mL, 50 μg/mL, 100 μg/mL plates, D-F are Yeasen hygromycin 20 μg/mL, 50 μg/mL, 100 μg/mL plates

Selected Product Citations

[1]Zhang D, Liu Y, Zhu Y, et al. A non-canonical cGAS-STING-PERK pathway facilitates the translational program critical for senescence and organ fibrosis. Nat Cell Biol. 2022;24(5):766-782. doi:10.1038/s41556-022-00894-z(IF:28.824)

[2] Lu T, Zhang Z, Zhang J, et al. CD73 in small extracellular vesicles derived from HNSCC defines tumour-associated immunosuppression mediated by macrophages in the microenvironment. J Extracell Vesicles. 2022;11(5):e12218. doi:10.1002/jev2.12218(IF:25.841)

Order Information

Product Name	Cat.No.	Specifications
Ampicillin, Sodium Salt	60203	10 g / 100 g
Chloramphenicol, USP Grade	60205	5 g / 25 g / 100 g
Kanamycin Sulfate	60206	10 g / 100 g
Neomycin Sulfate	60207	25 g / 100 g
Puromycin (Solution 10 mg/mL)	60209	1×1 mL / 5×1 mL / 10×1 mL / 50×1 mL
Tetracyclin HCl	60212	25 g / 100 g
G418 Sulfate (Geneticin)	60220	1 g / 5 g
Hygromycin B	60225	1 g / 10 g

02 Reagents for NGS Library Preparation

Selection Guide

Product Line	Product Name	Cat.No.	Specifications
DNA Library Preparation	Hieff NGS™ Ultima Pro DNA Library Prep Kit	12197	8/24/96T
	Hieff NGS™ Ultima Pro PCR Free DNA Library Prep Kit V2	12196	8/24/96T
	Hieff NGS™ OnePot Pro DNA Library Prep Kit for Illumina	12205	8/24/96T
	Hieff NGS™ OnePot II DNA Library Prep Kit for MGI	13321	16/96T
	Hieff NGS™ Fast-Pace DNA Cyclization Kit for MGI	13341	16/96T
RNA Library Preparation	Hieff NGS™ Ultima Dual-mode RNA Library Prep Kit	12308	8/24/96T
	Hieff NGS™ Ultima Dual-mode mRNA Library Prep Kit	12309	8/24/96T
	Hieff NGS™ MaxUp rRNA Depletion Kit (Plant)	12254	24/96T
	Hieff NGS™ MaxUp Human rRNA Depletion Kit(rRNA & ITS/ETS)	12257	8/24/96T
Adapter	Hieff NGS™ Stubby UDI Primer Kit for Illumina	12404/12407	12×2 T/96×2 T/ 192×2 T/384×2 T
	Hieff NGS™ 384 CDI Primer for Illumina, Set 1/Set2 (96 index)	12412/12413	96×2 T
	Hieff NGS™ complete Adapter Kit for Illumina, Set1/Set2 (Inquire)	13519/13520	48×4 T/48×16 T
	Hieff NGS™ Dual UMI UDB Adapter Kit for MGI, Set1/Set2 (Inquire)	13367/13368	48 x 2 T/48 x 4 T
Magnetic Beads	Hieff NGS™ DNA Selection Beads	12601	1/5/60/450 mL
	Hieff NGS™ RNA Cleaner	12602	1/5/60/450 mL
Library Quantification	(1×)dsDNA HS Assay Kit for Qubit	12642	100/500 T
	ssDNA Assay Kit for Qubit	12645	100/500 T

High-throughput sequencing is a revolutionary innovation of traditional sequencing technology, which has greatly promoted the development of science and technology.

Yeasen Biotech has been paying great attention to high-throughput sequencing technology for a long time. Since its establishment in 2014, the company has been committed to the innovative development of molecular enzymes. Combined with its years of experience in molecular enzyme research and development, it has gathered researchers with rich experience in genomics and bioinformatics to form a high-throughput sequencing research and development team. A complete product line of upstream sample extraction and library preparation for high-throughput sequencing was successfully launched.

Yeasen Biotech can provide not only high-quality library preparation kits, but also customize and develop sequencing related products according to customers' needs, which are widely used in medical detection, scientific research and other fields.

Hieff NGS™ Ultima Pro DNA Library Prep Kit 12197

Features

- Compatible with multiple types of DNA samples：animal and plant gDNA, microbial gDNA, FFPE DNA, cfDNA, ChIP DNA, etc.. Support the preparation of PCR free library
- With an industry-leading library conversion rate of more than 70%
- Proven to provide high-quality libraries and sequencing data
- Strict batch stability

Validation Data

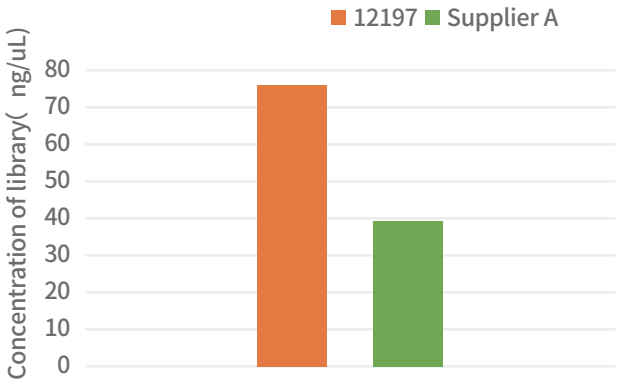


Figure1. Comparison of the yield concentration of ctDNA 1% standard library.

Sample: ctDNA standard with 1% mutation frequency

Sample Input：5ng

Number of PCR cycles: 10 cycles

Method: The final library was captured with Cancer SLC Panel, and the library was sequenced. The library yield, sequencing data quality and gene mutation detection were compared.

Results: Compared with the Supplier kit, the results of hybridization capture of tumor ctDNA 1% standard showed that the library yield concentration of 12197 was higher than that of Supplier A.

Figure2.Sequencing data quality and mutation detection display

				ctDNA-1%-12197			ctDNA-1%-Supplier A		
Genes	Variable Sites	Types of gene mutation	Mutation Frequency (%)	DP	VD	AF(%)	DP	VD	AF(%)
NRAS	Q61K	SNV	1	913	8	0.8762	656	15	2.2866
PIK3CA	E545K	SNV	1	1309	9	0.6875	819	6	0.7326
EGFR	E746_A750	Del	1	1197	4	0.3342	762	12	1.5748
EGFR	V769_D770insASV	Ins	1	1111	10	0.9001	969	0	0
EGFR	T790M	SNV	1	1194	6	0.5025	904	4	0.4425
EGFR	L858R	SNV	1	1190	8	0.6723	977	6	0.6141
KRAS	A146T	SNV	1	1215	15	1.2346	736	6	0.8152
KRAS	G12D	SNV	1	1246	6	0.4815	928	12	1.2931

Results: Compared with the sequencing data of competing products, 12197 had less fragment self-connection, lower Dup, higher Mean Depth, higher capture efficiency。

Figure3.Comparison of mutation detection frequency

	Raw Bases (G)	Clean/ Raw (%)	Total Diff Chr(%)	The same number of reads was intercepted	Dup (%)	Reads Capture (%)	Bases Capture (%)	Raw Depth	Mean Depth	Coverage (%)
ctDNA-1%-12197	1.91	96.98	5.20	4000000	64.66	69.11	29.26	12097.09	1224.56	100
ctDNA-1%-Supplier A	2.46	96.25	6.44	4000000	69.54	70.03	22.99	12306.13	860.41	100

Results: Compared with the sequencing data of competing products, 12197 had less fragment self-connection, lower Dup, higher Mean Depth, higher capture efficiency。

Selected Product Citations

[1] Diao G, Huang J, Zheng X, et al. Prostaglandin E2 serves a dual role in regulating the migration of dendritic cells. Int J Mol Med. 2021;47(1):207-218. doi:10.3892/ijmm.2020.4801(IF:3.098)

[2] Cha N, Jia B, He Y, et al. MicroRNA-124 suppresses the invasion and proliferation of breast cancer cells by targeting TFAP4. Oncol Lett. 2021;21(4):271. doi:10.3892/ol.2021.12532(IF:2.967)

[3] Ma W, Zhang X, Liu Y. miR-124 promotes apoptosis and inhibits the proliferation of vessel endothelial cells through P38/MAPK and PI3K/AKT pathways, making it a potential mechanism of vessel endothelial injury in acute myocardial infarction. Exp Ther Med. 2021;22(6):1383. doi:10.3892/etm.2021.10819(IF:2.447)

Hieff NGS™ Ultima Pro PCR Free DNA Library Prep Kit V2 12196

Features

01 Suitable for 5ng-1000 ng DNA including FFPE, cfDNA etc.

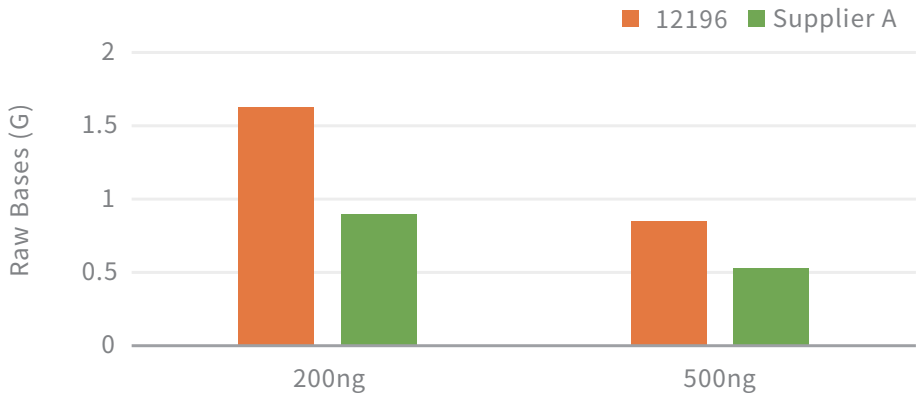
02 Proven to provide high-quality libraries and sequencing data

03 Strict batch stability

Validation Data

Method: Using ultrasound-interrupted calf gDNA samples as a template, 200ng and 500ng were input to prepare PCR Free libraries, and 50ng of each library was used for up-sequencing. The library transformation efficiency was judged by the amount of sequencing data.

Figure1.Comparison of transformation efficiency of PCR Free libraries



Results: The amount of data of 12196 PCR Free library was higher than that of the competition products, especially when the input volume was 200ng, the transformation efficiency of 12196 library was higher than that of the Supplier A.

12205 Hieff NGS™ OnePot Pro DNA Library Prep Kit for Illumina

Features

- Applicable to 500 pg - 1 μg genomic DNA, full-length cDNA, FFPE DNA samples and other samples
- Fragmentation, end repair/dA-tailing one step
- High quality fragment enzyme, which can randomly cut double stranded DNA, and has no preference for cutting fragments
- High fidelity enzyme with strong amplification efficiency, significantly improving library quality and yield
- Strict batch performance and stability quality control

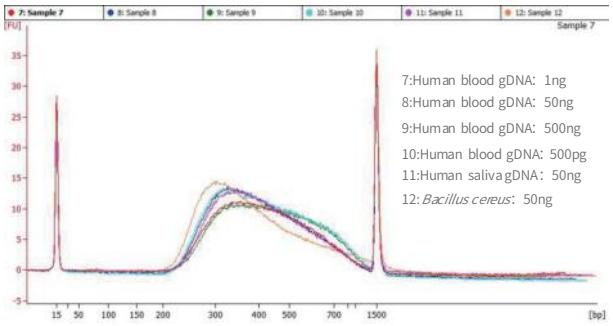


Figure1. Library preparation of different sample types with Cat#12205

Sample: Human Blood gDNA, human saliva gDNA and *Bacillus cereus*

Method: Enzyme digestion time:12 minute, Aligent 2100 detect the range of enzyme digestion fragments

Results: The distribution of the library was basically consistent with different samples and different amounts of enzyme digestion for 12 minutes

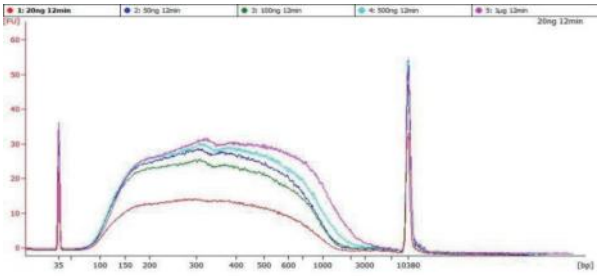


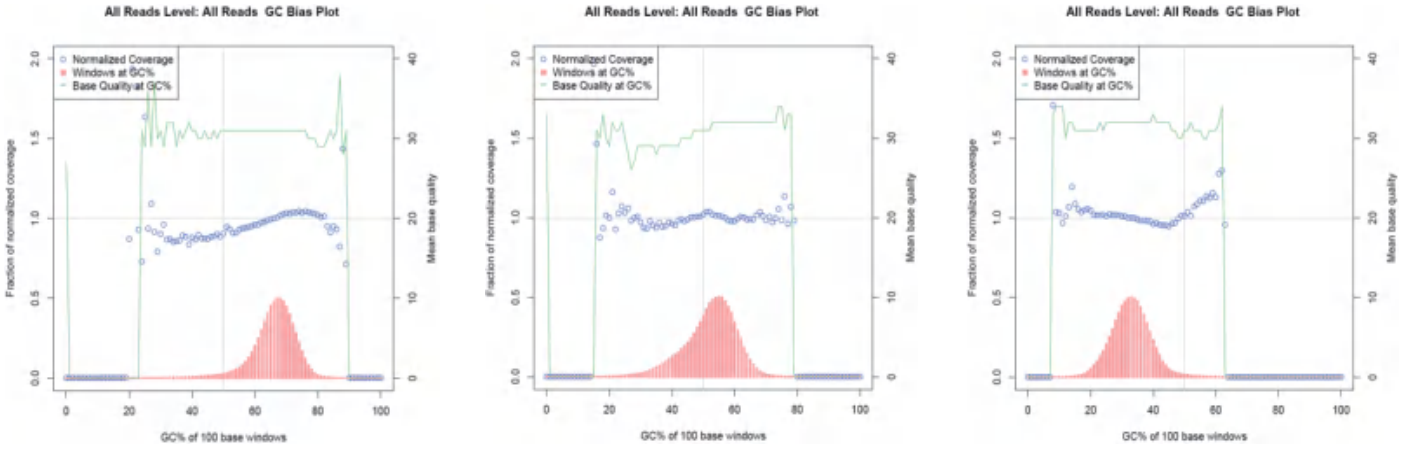
Figure2. Different template input compatibility test with Cat#12205

Sample: Human Blood gDNA 20ng、50ng、100ng、500ng、1ug;

Method: Enzyme digestion time:12 minute, Aligent 2100 detect the range of enzyme digestion fragments

Results: Input amount of different formworks (20ng~1μg). The size of the digested products is consistent, indicating that the amount of template input will not affect the size of the digested fragments

Figure3. Sequencing data analysis GC Bias results



Results: Select three strains with different GC contents of ZYMO standard D6306, then were tested with Cat#12205 kit. The sequencing results showed that the kit had no bias for strains with different GC contents

Hieff NGS™ Fast-Pace DNA Cyclization Kit for MGI 13341

Product Description

Hieff NGS™ Fast-Pace DNA Cyclization Kit for MGI is a single-strand cyclization kit specifically designed for MGI high-throughput sequencing platforms. The use of high-quality enzymes and optimized buffer significantly improves reaction efficiency, enabling the entire cyclization and digestion process to be completed in less than 30 minutes. This kit is suitable for all standard dual-label PCR adapter library connected to MGI platforms, and is not limited to different MGI sequencing platforms except for the limitations of the library-prep reagents.

Features

High cyclization efficiency

More than 30%

Fast cyclization rate

Rapid cyclization in 1 hour

Wide range of application

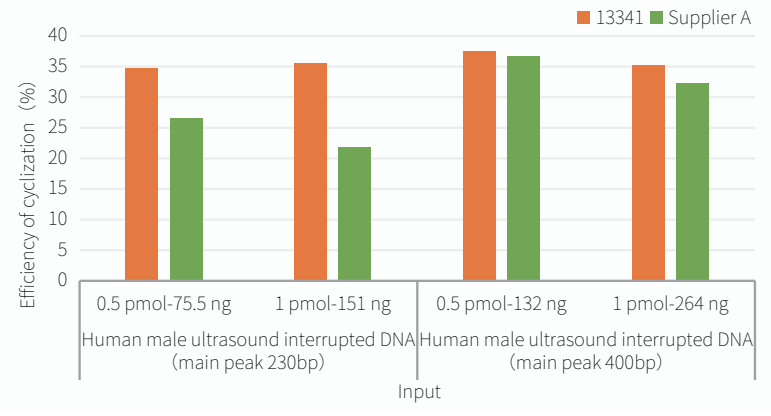
Compatible with different sample types and different brands of library preparation kits

Stable quality

Strict quality control process

Validation Data

Figure1. Comparison of cyclization efficiency of PCR-free libraries



Results: After the PCR free library was prepared by 12202, the cyclization efficiency of different library fragments 13341 was higher than that of the Supplier A.

12308 Hieff NGS™ Ultima Dual-mode RNA Library Prep Kit

Features

01 Easy to use
Three steps (2nd stand step、end- repair and dA-tailling step) in one

02 Dual platform adaptation
Compatible with Illumina and MGI platform

03 Convenient
meet the need for conventional library or strand-specific library

Validation Data

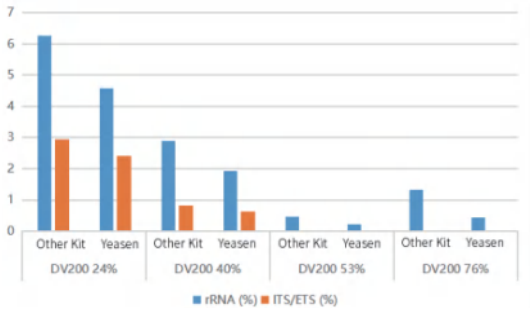


Figure1. Low quality FFPE sample can have nice library

Different low quality FFPE samples were used to prepare RNA library. Yeasen kits have lower rRNA rates

Selected Product Citations

[1] Liu Y, Han R, Zhou L, et al. Comparative performance of the GenoLab M and NovaSeq 6000 sequencing platforms for transcriptome and LncRNA analysis [published correction appears in BMC Genomics. 2022 Jan 26;23(1):81]. BMC Genomics. 2021;22(1):829. Published 2021 Nov 17. doi:10.1186/s12864-021-08150-8(IF:4.547)

12309 Hieff NGS™ Ultima Dual-mode mRNA Library Prep Kit

Features

01 Easy to use
Three steps (2nd stand step、end repair and dA-tailling step) in one

02 Dual platform adaptation
Compatible with Illumina and MGI platformn

03 Convenient
Meet the need for conventional library or strand-specific library

04 No species preference
Compatible with all eukaryote species

Validation Data

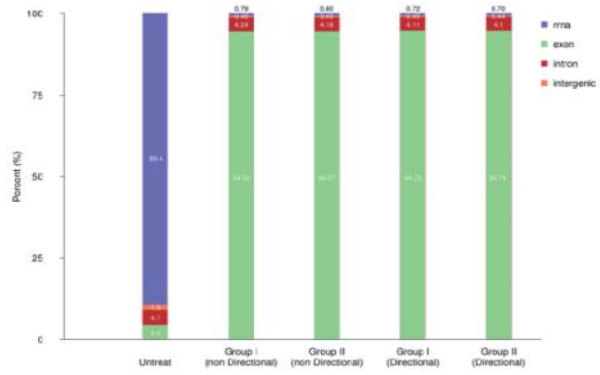


Figure1. Excellent sequencing quality

RNA libraries was prepared by Yeasen Kit(Cat#12309), the libraries are homogeneous and have higher proportion of exons and mRNA rate comparing with the total RNA library(untreated one)

Selected Product Citations

[1]Tian S, Zhang B, He Y, et al. CRISPR-iPAS: a novel dCAS13-based method for alternative polyadenylation interference. Nucleic Acids Res. 2022;50(5):e26. doi:10.1093/nar/gkac108(IF:19.160)

12254 Hieff NGS™ MaxUp rRNA Depletion Kit (Plant)

Features

01 Strong specificity

Specifically remove rRNA from various plant samples

02 High compatibility of template starting amount

Applicable to 100 ng~1μg sample

03 Stable quality

Strict batch performance and stability quality control Validation Data

Validation Data

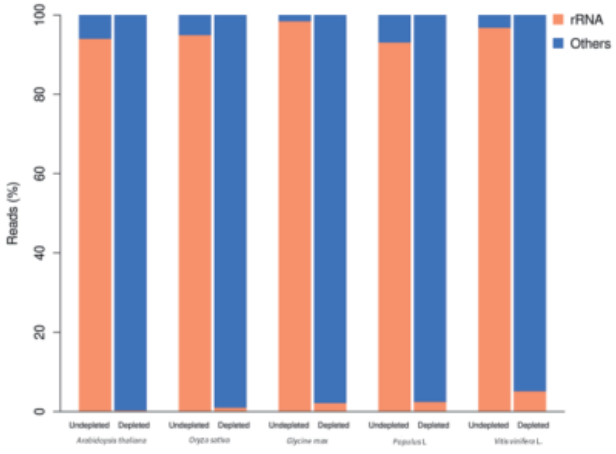


Figure1. High Depletion rate in various plant

1 μg Total RNA from various plant was used and RNA library was prepared using Yeasen Cat#12308 and Cat#12254. Calculated the percent reads of undepleted and depleted rate of rRNA in these RNA libraries.

12257 Hieff NGS™ MaxUp Human rRNA Depletion Kit(rRNA & ITS/ETS)

Features

01 Strong specificity

Specifically remove rRNA and ITS/ETS from human samples, especially for FFPE samples

02 High compatibility of template starting amount

Applicable to 100 ng~1μg sample

03 High removal effect

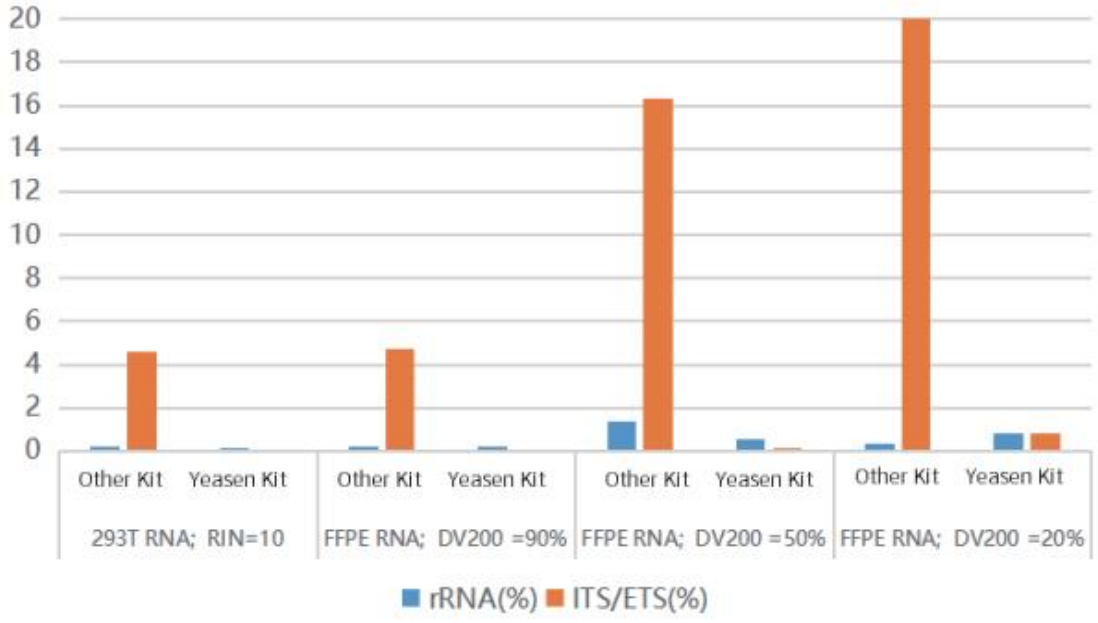
For rRNA, ITS and ETS in human\mouse and rat samples, the removal effect is more than 95%

04 Stable quality

Strict batch performance and stability quality control

Validation Data

Figure1. Excellent depletion rate in low quality FFPE RNA samples



Different low quality FFPE samples were used to prepare RNA library. Yeasen kits have lower rRNA rates and ITS/ETS rate.

Selected Product Citations

[1] Li M, Guo D, Chen X, Lu X, Huang X, Wu Y. Transcriptome profiling and co-expression network analysis of lncRNAs and mRNAs in colorectal cancer by RNA sequencing. BMC Cancer. 2022;22(1):780. Published 2022 Jul 16. doi:10.1186/s12885-022-09878-6(IF:4.638)

Features

01 Fit to Illumina and MGI platform

02 Enable prepare up to 384 kinds of unique dual-indexed fragment libraries

03 Effectively reduce index hooping Product list

Product List

Product Name		Type	Cat.No.	Specifications	Describe
Illumina	Hieff NGS™ Stubby UDI Primer Kit for Illumina	UDI	12404/12405/ 12406/12407-ES01	12×2 T/96×2 T/ 192×2 T/384×2 T	12/96/192/384 kinds of index
	Hieff NGS™ 384 CDI Primer for Illumina, Set 1/Set2 (96 index)	CDI	12412/12413ES02	96×2 T	96 kinds of index
	Hieff NGS™ complete Adapter Kit for Illumina,Set1/Set2 (Inquire)	Single Index(8bp)	13519/ 13520-ES04/ES16	48×4 T/48×16T	96 kinds of index
MGI	Hieff NGS™ Dual UMI UDB Adapter Kit for MGI,Set1/ Set2 (Inquire)	Dual UMI -UDB	13367/ 13368-ES02/7ES04	48 x 2 T/48 x 4 T	96 kinds of index

12601 Hieff NGS™ DNA Selection Beads

Product Description

Hieff NGS™ DNA Selection Beads are prepared based on the SPRI (Solid Phase Reverse Immobilization) principle and is applicable for DNA purification and size selection during the preparation of next generation sequencing (NGS) libraries. Hieff NGS™ DNA Selection Beads is compatible with various of DNA and RNA library prep kits.

Features

01 High recovery, for nucleic acid fragments between 200bp to 20kb, the recovery rate reaches 95%

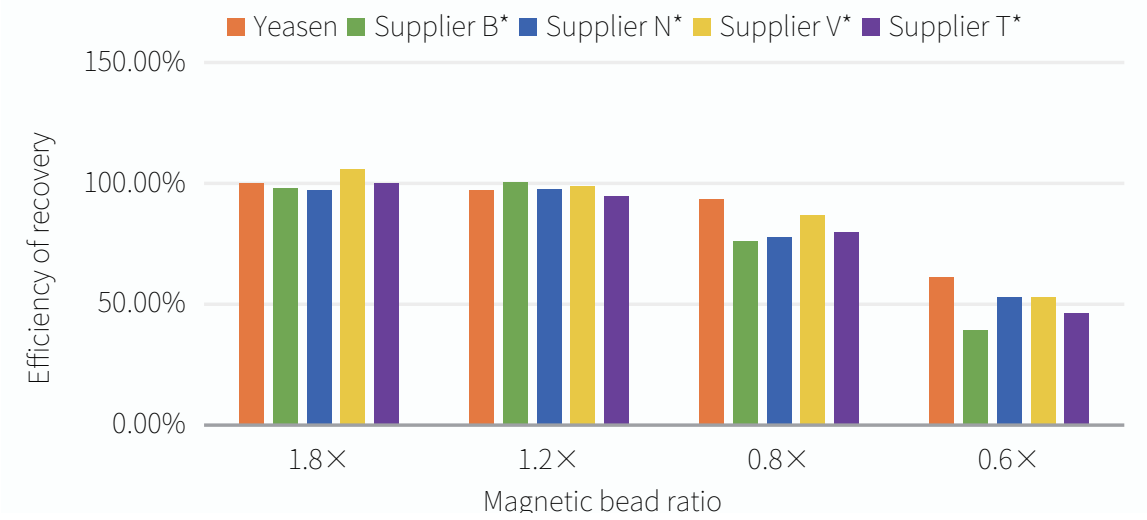
02 Effectively remove redundant dNTPs, primers primer dimers, salts and other impurities

03 For dsDNA or ssDNA purification

04 Precise, controllable and highly repetitive fragment selection

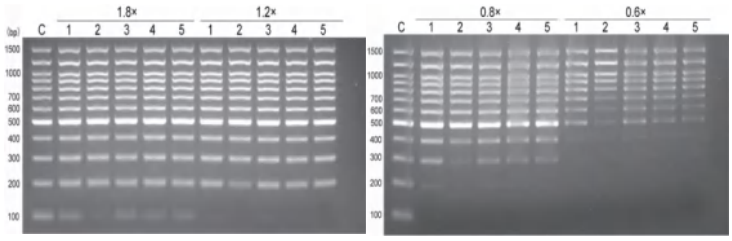
Validation Data

Figure1. Comparison of recovery efficiency of different brands of magnetic beads in different proportions



*Note: DNA Marker contains loading and other substances, which affect the quantification of nucleic acid, so the initial Input quantification result is low, so the recovery efficiency is slightly higher than 100% in the Figure.

Figure2.The recovery effect compares of different brands of DNA Marker under different recovery ratio of magnetic beads



Lane1: Yeasen; Lane2: B*; Lane3: N*; Lane4: V*; Lane5: T*; C: DNA Marker (Cat#10507)

Method: The 1Kb DNA Marker (Yeasen Cat#10507) was used as the purification template, and the magnetic beads of each brand were used for purification and recovery in different proportions. The recovered products were quantified using Qubit to calculate the recovery rate, and the size of the recovered fragments was compared by agarose gel electrophoresis.

Results:1. A high proportion of DNA is recovered, and the recovery efficiency of each brand of DNA magnetic beads is similar; 2. low proportion of DNA recovery, Yeasen magnetic beads recovery efficiency is higher

Selected Product Citations

[1] Wang X, Yuan Q, Zhang W, et al. Sequence specific integration by the family 1 casposase from Candidatus Nitrosopumilus koreensis AR1. Nucleic Acids Res. 2021;49(17):9938-9952. doi:10.1093/nar/gkab725(IF:16.971)

[2] Duan XZ, Sun JT, Wang LT, et al. Recent infection by Wolbachia alters microbial communities in wild Laodelphax striatellus populations. Microbiome. 2020;8(1):104. Published 2020 Jul 2. doi:10.1186/s40168-020-00878-x(IF:11.607)

[3] Liu QH, Wang ZY, Tang JW, et al. Comparative transcriptome analysis of diurnal alterations of liver glycogen structure: A pilot study. Carbohydr Polym. 2022;295:119710. doi:10.1016/j.carbpol.2022.119710(IF:9.381)

12602 Hieff NGS™ RNA Cleaner

Product Description

This kit adopts efficient magnetic beads, combined with a unique buffer system, which can specifically bind RNA and effectively remove proteins, salt ions and other impurities. It is often used to purify total RNA samples after rRNA removal, in vitro transcribed RNA products, RNA-labeled products, and synthetic RNAs. And the purified RNA is suitable for RNA library preparation, RT-PCR, qRT-PCR, chip analysis, Northern Blot and RNAi experiments.

Validation Data

RNA Sample	Human		Mouse		Arabidopsis	
Detect genes	GAPDH	β-Actin	GAPDH	β-Actin	PP2A	TUB2
ct before purification	12.92	12.36	18.74	18.53	24.33	22.2
Ct after purification	12.32	11.89	17.62	17.91	23.38	21.35

Changes in qRT-PCR Ct values of RNA samples before and after using the total RNA purification kit, After RNA purification, gene expression increased.

12642 (1×)dsDNA HS Assay Kit for Qubit

Product Description

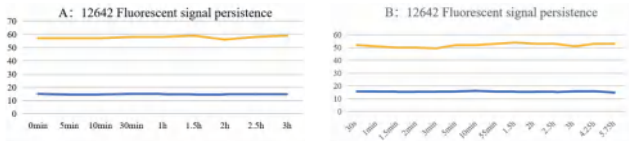
1×dsDNA HS Assay Kit is a rapid, highly sensitive and accurate fluorescent quantitative detection kit for double-stranded DNA (dsDNA). This kit is highly selective for dsDNA and has good linearity in the range of 0.2 ng-100 ng, the quantitation range is between 10 pg/μL to 100 ng/μL. This kit is easy to operate, providing a ready-to-use working solution that enables simple dsDNA sample quantification on Qubit Fluorometer or Fluorescence Microplate Reader. It is ideal choice for NGS large-scale DNA sample quantification (such as input DNA quantification, DNA library quantification, etc.). This kit is well tolerated to common contaminants such as proteins and salts.

Features

- **High sensitive:** The concentrations ranging from 10 pg/μL to 100 ng/μL of dsDNA can be accurately quantified;
- **High specificity:** This product is highly selective to dsDNA and is not affected by RNA, has good tolerance to some conventional pollutants, such as salt, free nucleotide, protein, solvent, detergent, etc.;
- **Ready to use:** 1x working solution, just add the dsDNA sample to be tested and test it with Qubit fluorometer or Fluorescence Microplate Reader at room temperature

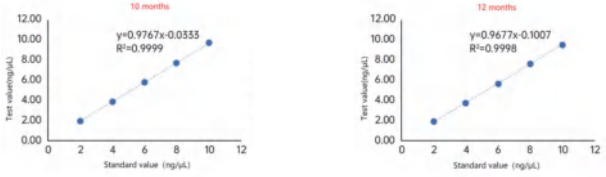
Validation Data

Figure1. Dye binding efficiency and fluorescence signal persistence



Results: The fluorescence signal of Cat 12642 reached saturation within 2min and remained stable within 5h.

Figure2. The product stability test



Results: The results show it remains stable after being stored at room temperature for 2 weeks (the deviation between the measured value and the theoretical value was <10%)

Selected Product Citations

[1] Duan XZ, Sun JT, Wang LT, et al. Recent infection by Wolbachia alters microbial communities in wild Laodelphax striatellus populations. Microbiome. 2020;8(1):104. Published 2020 Jul 2. doi:10.1186/s40168-020-00878-x(IF:11.607)

[2] Zhang Y, An C, Zhang Y, et al. Microfluidic-templating alginate microgels crosslinked by different metal ions as engineered microenvironment to regulate stem cell behavior for osteogenesis. Mater Sci Eng C Mater Biol Appl. 2021;131:112497. doi:10.1016/j.msec.2021.112497(IF:7.328)

[3] An C, Liu W, Zhang Y, et al. Continuous microfluidic encapsulation of single mesenchymal stem cells using alginate microgels as injectable fillers for bone regeneration. Acta Biomater. 2020;111:181-196. doi:10.1016/j.actbio.2020.05.024(IF:7.242)

ssDNA Assay Kit for Qubit 12645

Product Description

ssDNA Assay Kit is a simple, sensitive and accurate single strand DNA (ssDNA) fluorescence quantitative detection kit with good linear relationship between 1-200 ng. This kit contains fluorescence detection reagent, buffer solution and related ssDNA standards. Before use, dilute the buffer solution of fluorescence detection reagent into working solution, and then add the ssDNA sample to be tested, then use the fluorescence microplate or Qubit Read with a fluorometer. The selectivity of this kit to single stranded DNA is not higher than that to double stranded DNA, but it has good tolerance to conventional pollutants such as proteins, salts, detergents, etc.

Features

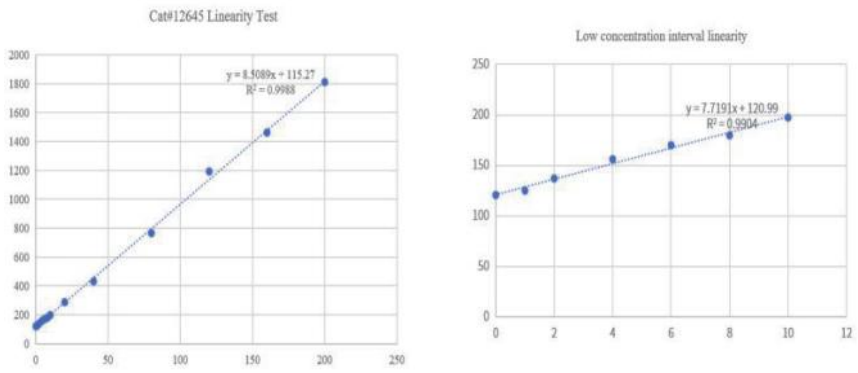
01 Fast and accurate ssDNA quantification

02 High sensitivity, there is a good linear relationship in the low concentration range

03 Very suitable for MGI platform library

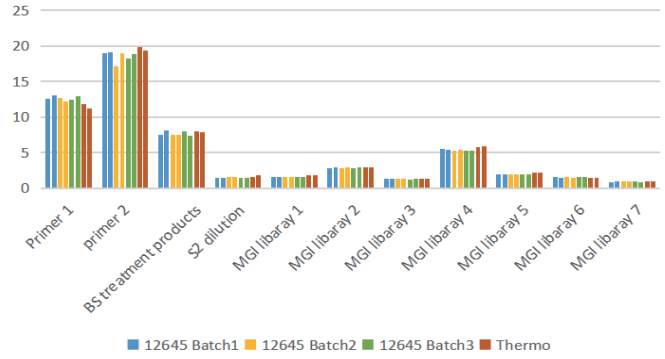
Validation Data

Figure1 Linearity Performance



Test Sample: ssDNA standards;
Conclusion: Good linearity within 0-200ng

Figure2 Comparison of measured values of different batches and original Thermophile products



Results: The stability of Yeasen (Cat # 12645) three batches of products is good, which can accurately quantify different types of ssDNA samples, and consistent with the competitive products(Thermo Q1021

03 Reagents for Molecular Diagnostics

Selection Guide

Product Line	Product Name	Cat.No.	Specifications
Taq DNA Polymerase & Antibody	Hieff™ Taq DNA Polymerase	10101ES80/90	1000U/5×1000U
Taq DNA Polymerase & Antibody	Hieff™ UNICON™ Hotstart E-Taq DNA Polymerase, 5 U/μL	10726ES72/80/92	250U/1000U/10000U
Taq DNA Polymerase & Antibody	Hieff™ Double-Block Anti-Taq DNA Polymerase Antibody	31303ES60/80/90	100μg/1mg/5mg
Reverse Transcriptase	Hifair™ V Reverse Transcriptase	11300ES92/98	10000U/200000U
UDG Enzyme	Uracil DNA Glycosylase (UDG/UNG), 1 U/μL	14455ES60/76	100U/500U
RNase Inhibitor	Murine RNase inhibitor (40 U/μL)	10603ES05/10/20	2KU/10KU/20KU
Isothermal Amplication	Hieff™ Bst Plus DNA Polymerase	14402ES92/97	8000U/40000U
Isothermal Amplication	RT-LAMP Dye Assay Kit (UDG plus)	13762ES60/80	100T/1000T
Isothermal Amplication	Lyophilized Bst Plus DNA Polymerase (40 U/μL, Glycerol-Free)	14405ES60/97/98	12KU/120KU/1200KU
Pre-Mix/Kit for qPCR & RT-qPCR	Hieff Unicon™ Universal Multiplex qPCR Master Mix (Probe Based)	11211ES03/09/20	1ml/5ml/20ml
Pre-Mix/Kit for qPCR & RT-qPCR	Hifair™ V Multiplex One Step RT-qPCR Probe Kit (UDG Plus)	13747ES60/80	100T/1000T
Pre-Mix/Kit for qPCR & RT-qPCR	Monkeypox Virus Real Time qPCR Kit (UDG plus)	13863ES25/60/80	25T/100T/1000T
dNTPs	dATP Solution (100 mM)	10118ES74/96	400μl/25ml
dNTPs	dATP Solution (100 mM)	10119ES74/96	400μl/25ml
dNTPs	dATP Solution (100 mM)	10120ES74/96	400μl/25ml
dNTPs	dATP Solution (100 mM)	10121ES74/96	400μl/25ml
dNTPs	dATP Solution (100 mM)	10128ES74/96	400μl/25ml
dNTPs	dNTP Set Solution (dATP, dCTP, dTTP, dGTP, 100 mM each)	10122ES74	4×100μL
dNTPs	dNTP Mix (25 mM each)	10125ES80/86	1ml/25ml

10101 Hieff™ Taq DNA Polymerase

Features

01

Purity ＞ 95%, no nuclease residues, low bacterial gDNA residues

02

Great batch stability

Strict productions process and quality inspection standards ensure the performance stability of different batches of products

03

Stable production capacity

single batch production capacity reaches g level, stable supply, short delivery time

Validation Data

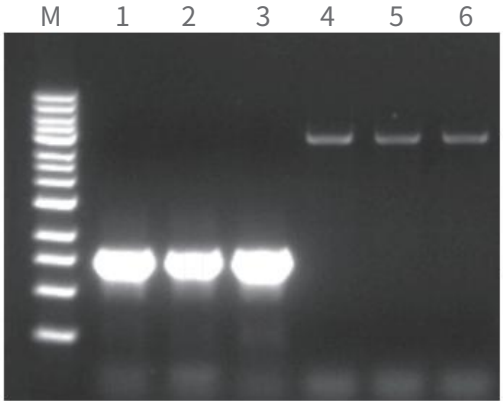


Figure1. The expected 0.8 kb and 3.5 kb PCR products can be amplified with Hieff™ Taq DNA Polymerase.

Hieff™ Taq DNA Polymerase was successfully used for the amplification of 0.8 kb and 3.5 kb PCR products with bacterial samples directly.

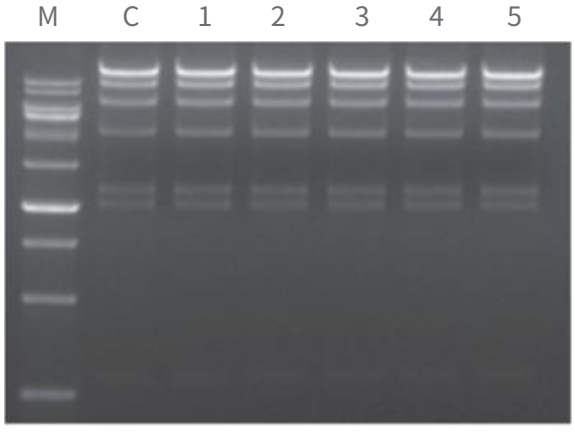


Figure2. The detection result of nuclease residues of Hieff™ Taq DNA Polymerase.

In 20 μL reactions, 10 U Hieff™ Taq DNA Polymerase (5 batches) and 0.5 λDNA/Hind III digestion product was incubated at 37 oC.After incubation for 4 hours, DNA remains intact as determined by gel electrophoresis using fluorescent detection. The result showed no nuclease residues.

Selected Product Citations

[1]Lu Z, Yang S, Yuan X, et al. CRISPR-assisted multi-dimensional regulation for fine-tuning gene expression in Bacillus subtilis. Nucleic Acids Res. 2019;47(7):e40. doi:10.1093/nar/gkz072(IF:11.147)

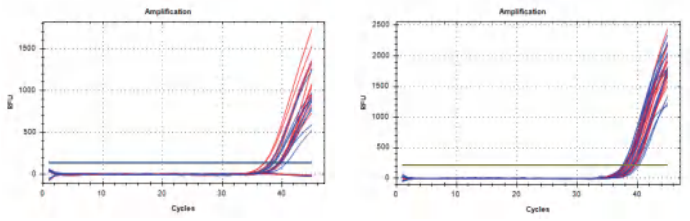
Hieff UNICON™ HotStart E-Taq DNA Polymerase (5 U/μL) 10726

Features

01 High specificity: Double-Block anti-Taq DNA Polymerase Antibody,high specificity

02 Large-scale production: industrial production of molecular enzyme base, stable quality

Validation Data



Blue-T0, Red-37°C for 7days

Figure1. SARS-CoV-2 pseudovirus ORF 1ab and N Gene were used as templates. Low template input can be detected. The CDC recommended samples and probes were used for single-tube multiplex amplification.

31303 Hieff™ Double-Block Anti-Taq DNA Polymerase Antibody

Features

01 **High blocking efficiency**

A small amount of antibody is used, and the blocking efficiency is not less than 90%

01 **High purity**

purity>95% , no nuclease residues, low mouse gDNA residues

01 **Wide application**

It is suitable for hot start of various Taq DNA Polymerase

Validation Data

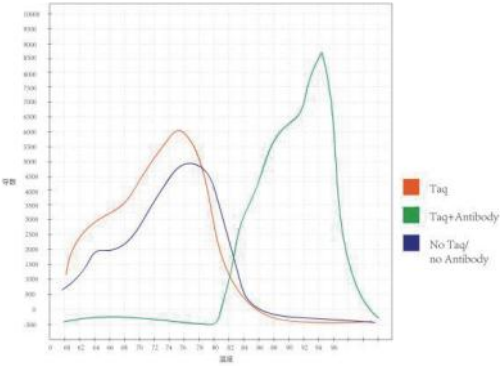


Fig1. The non-hot-start group showed amplification products, while the other two groups were primer dimers and no products were formed.

Hieff™ Double-Block Anti-Taq DNA Polymerase Antibody efficiently blocking the activity of Taq at room temperature

11300 HifairTM V Reverse Transcriptase

Features

Compatibility: Suitable for different GC content and different expression of abundance genes.

Validation Data

Fig1. RNA was used as a template for reverse transcription, and the resulting cDNA was amplified by PCR. M: Marker

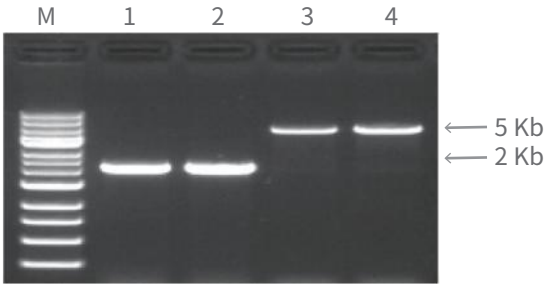
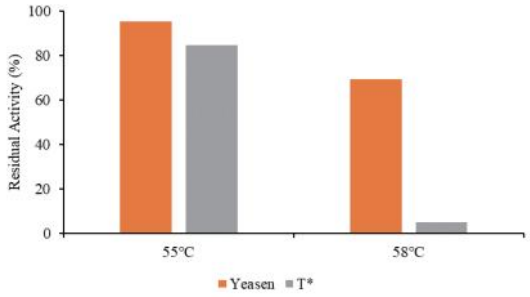


Fig2. Activity assay for thermostability. Thermostability of the RTs was evaluated by preincubating at 50°C and 58°C for 30 min. 11300 sustained 70% activity up to 58°C.



Uracil DNA Glycosylase (UDG/UNG), 1 U/μL 14455

Features

Strong digestive ability

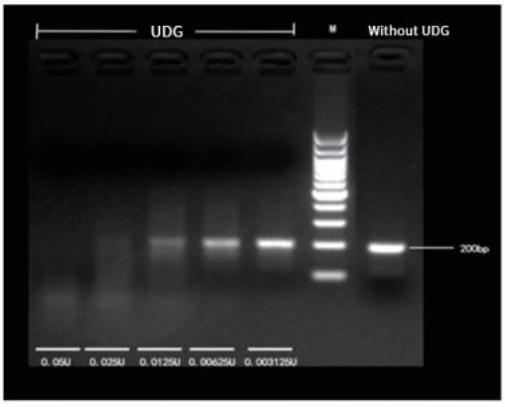
UDG enzyme (0.025 U) fully digests 360 ng of 200 bp dU-DNA

Genome residue was fewer than 10 copies/10 U

No nucleic acid endonuclease, exonuclease and RNase residues

Uracil is the only base recognized by this enzyme

Validation Data



Figue1 . Electrophoresis results of 0.05 U, 0.025 U, 0.0125 U, 0.00625 U, 0.003125 U anti- contamination UDG enzyme with 360 ng of 200 bp dU -DNA incubated at 25℃ for 30 min.

10603 Murine RNase Inhibitor (40 U/μL)

Features

- **RNase inhibition: RNase A, RNase B, and RNase C may all be inhibited.**
- **Versatile reaction conditions: active at pH 5.0 to 9.0 and temperatures ranging from 25 ℃ to 60 ℃.**
- **Thermal stability: Suitable for heat-stable reverse transcriptase (55℃ - 60℃).**
- **Multiple downstream experiments possible: no influence on the activity of SP6, T7, or T3 RNA polymerases, AMV, M-MLV reverse transcriptase, or Taq DNA polymerase**

Validation Data

No Nuclease Residue

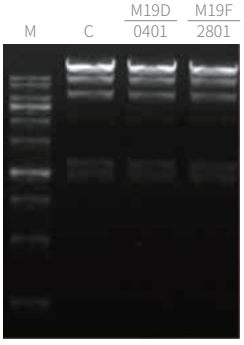
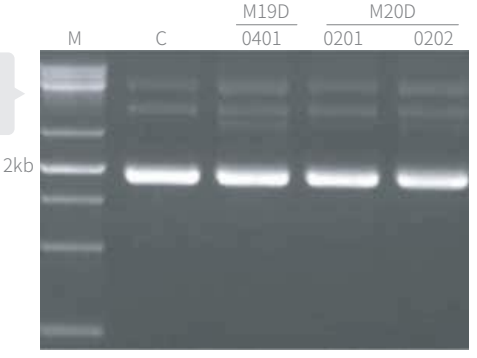


Figure. A 50 μL reaction containing 500 ng lambda DNA/Hind III and 200 U MRI is incubated at 37°C for 4 hours, the electrophoretic bands were consistent with the control.

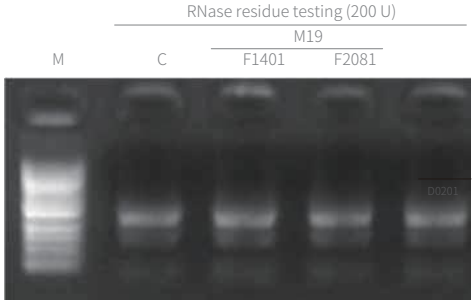
No Nickase Residue



A 10 μL reaction containing 500 ng IL23R supercoiled plasmid and 200 U MRI is incubated at 37°C for 4 hours, the electrophoretic bands were consistent with the control.

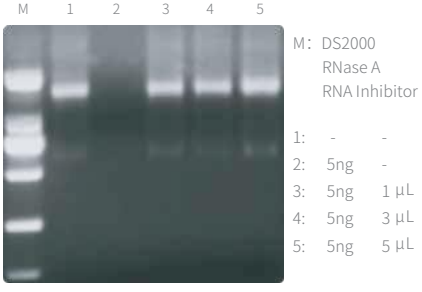
03

No RNase Residue



A 10 μL reaction containing 500 ng 293T RNA and 200 U MRI is incubated at 37°C for 4 hours, the electrophoretic bands were consistent with the control.

MRI can effectively inhibit RNase activity



05 Murine RNase Inhibitor outperforms international similar products in qPCR experiments

MRI	80U	60U	40U	30U	20U	10U	0U	PC
Yeasen Ct	12.51	12.5	12.96	13.12	17.22	29.64	39.12	11.23
R* Ct			14.09	13.84	14.36	27.58	-	-
△Ct			1.13	0.68	-2.86	-2.06	-	-

Figure. Different concentration gradients of MRI were incubated with 100 ng of RNase A to block the activity of RNase A, followed by digestion with 1 μg of RNA. One - step RT-qPCR was used to detect the degradation of RNA to judge the blocking effect of MRI on RNase A. PC representative system only RNA without RNase A and MRI.

RT-LAMP Dye Assay Kit (UDG plus) 13762

Features

High sensitive

50copie/T in 25μL reaction system

High specificity

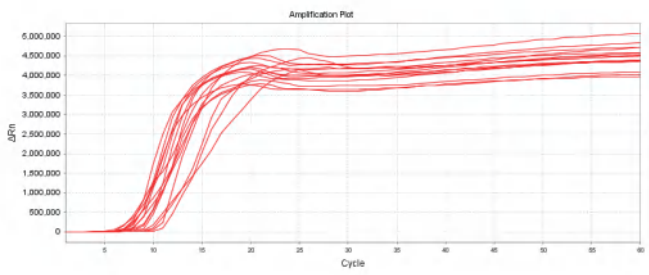
non-specific amplification products for NTC reactions

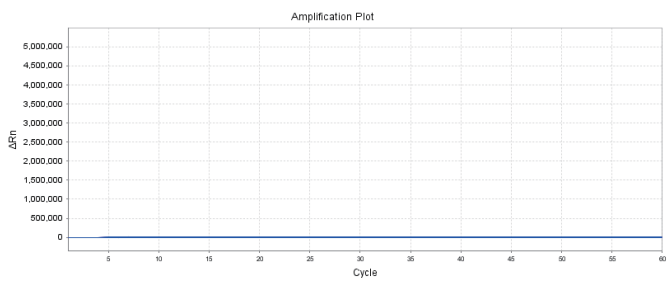
Tolerance for most nucleic acid releaser

Resistance for 10 freeze-thaw cycles

Validation Data

Fig1. In the 25 μL reaction system, the detection rate of 50 copies/T reached 100% , and the reaction time was less than 10 min.





14402 Hieff® Bst Plus DNA Polymerase (40 U/μL)

Features

01 High amplification efficiency

02 High dUTP tolerance

Validation Data

Yeasen Hieff™ Bst Plus DNA Polymerase for RT-LAMP reaction to amplify SARS-CoV-2 (20 copies/T). The dUTP/UDG enzymatic anti-fouling system was introduced in the recommended reaction scheme, and dUTP was used to replace dTTP. Comparing the amplification results of 35 mM dUTP replacement (red amplification curve) and T: U = 1:1 (blue amplification curve), it was found that the addition of dUTP in the reaction system had no effect on the sensitivity and amplification efficiency. The enzyme has high dUTP tolerance.

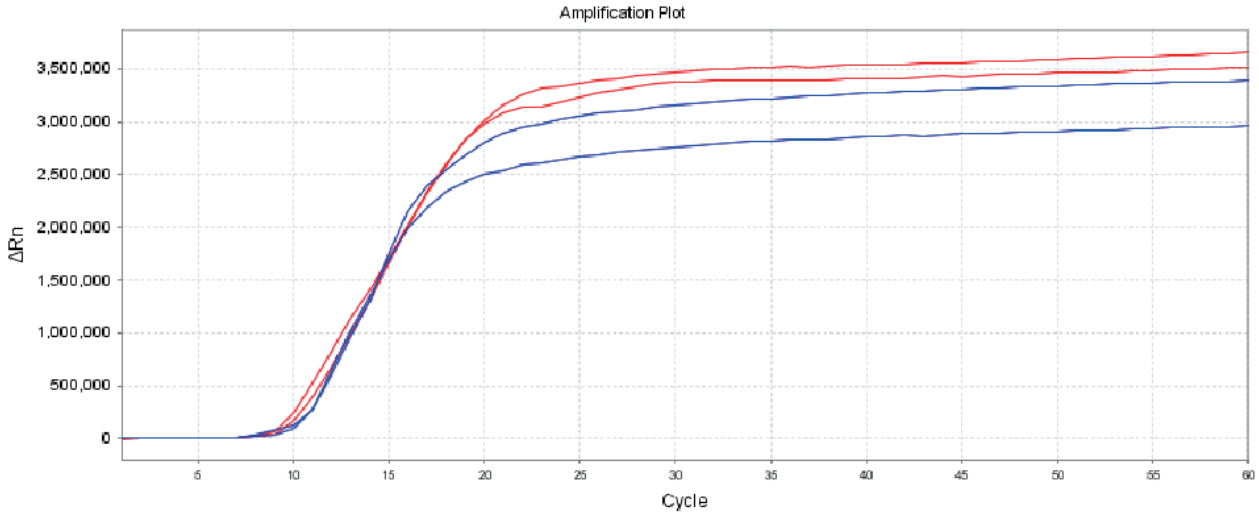


Figure. The results of the high dUTP tolerance test of Yeasen Hieff™ Bst Plus DNA Polymerase.

Hieff Unicon™ Universal TaqMan multiplex qPCR master mix 11211

Features

01 Blood tolerance

02 High detection sensitivity

03 Super storage stability

Validation Data

1. Detection of African Swine Fever

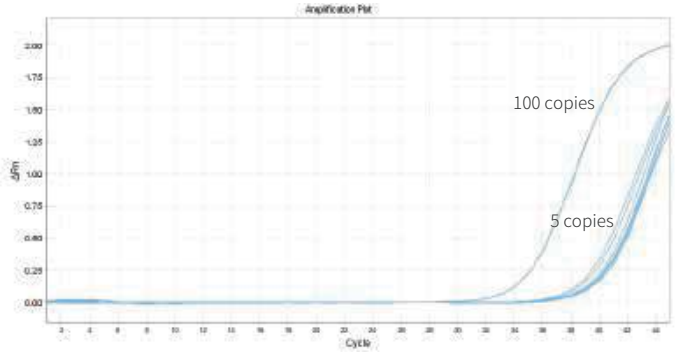


Figure. The Hieff Unicon TM Universal TaqMan Multiplex qPCR Master Mix was used to add 100 and 5 copies of ASF plasmids in 25 μL reaction system. The results showed that this crystal could effectively detect ASF in single digit copies.

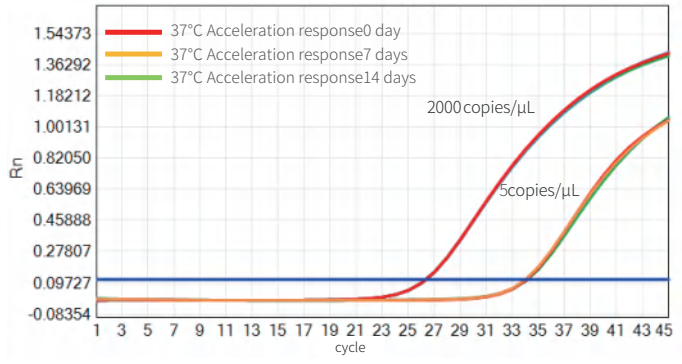


Figure. Yeasen qPCR master mix (Cat#11211) was placed at 37°C for 7 days and 14 days, and the ASFV plasmid was amplified. The results showed that the Ct value and fluorescence value did not change significantly, and the performance was stable.

2. Detection of Monkeypox Virus

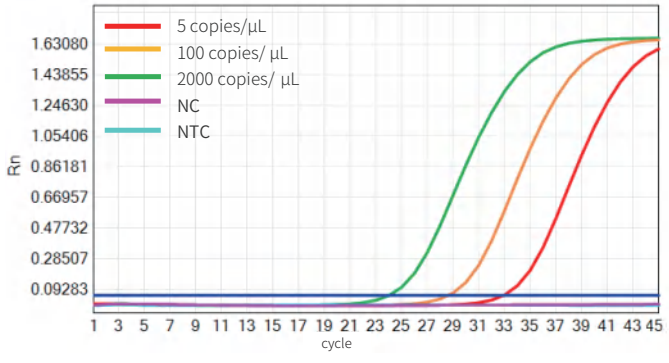


Figure. Yeasen Monkeypox Virus Real Time qPCR Kit (Cat#13862ES), to avoid 2000 Copies/μL, 1000 Copies/μL, 5 Copies/μL, negative control (NC) and blank control (NTC), respectively. The amplification curve was a typical flying pattern with stable baseline, no negative peak and no trailing phenomenon, showing high sensitivity and specificity.

13747 Hifair™ V Multiplex One Step.RT-qPCR Probe Kit (UDG Plus)

Features

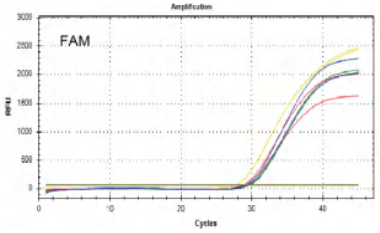
01 **High amplification efficiency**

02 **High Sensitivity& Specificity**

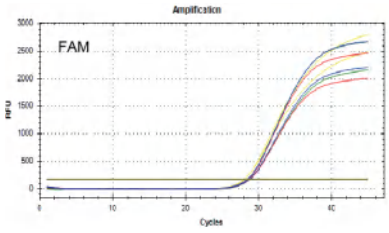
03 **dUTP /UDG pollution prevention system**

04 **Applied to PCR fast programs**

Validation Data



Fast RT-qPCR Program(30min)



Routine RT-qPCR Program(70min)

Fig1. HifairTM V Multiplex One Step RT-qPCR Probe Kit (UDG) is suitable for fast qPCR system.

Detection for 103/mL CDC plasmid

13863 Monkeypox Virus Real Time qPCR Kit (UDG plus)

Features

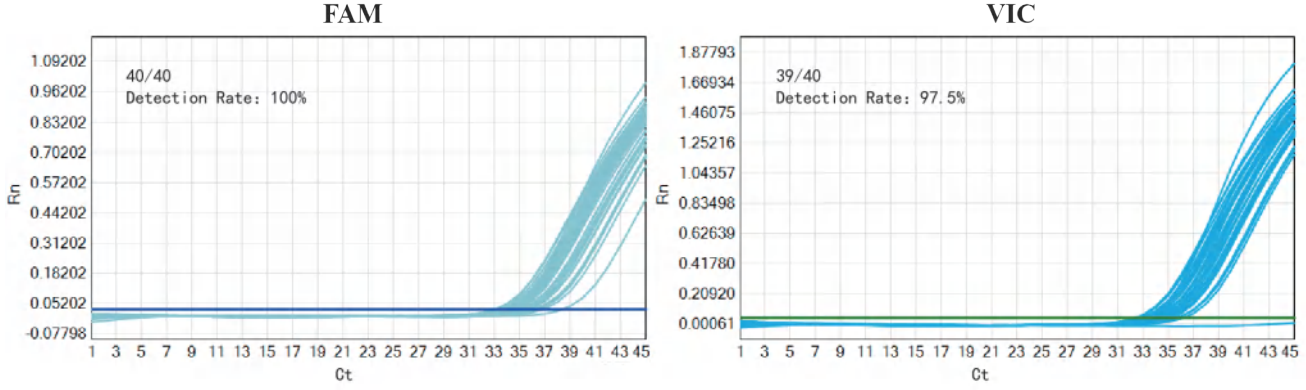
01 **High sensitive**
LOD 5copies/reaction

02 **Strong stability**
resistance for 50 freeze-thaw cycles

03 **Good linearity & duplication**

Validation Data

Fig1. Detation rate with 5 copies/μL of MPXV plasmid.



High-Purity dNTPs 10118/10119/10120/10121/10122/10125/10128

Features

- **High Purity:** purity⩾99% verified by HPLC.
- **Sensitivity:** No DNase, NO RNase, NO Endonuclease.
- **specificity:** No bacterial and human genome residues, No background interference.
- **Batch stability:** In line with ISO13485: 2016 quality management system, to ensure batch stability.

Validation Data

1. Residual bacterial DNA

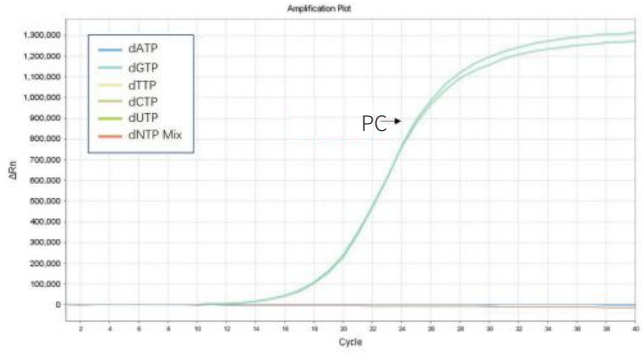


Fig . The detection results show that the dNTPs have no bacterial genome residues.

2. Residual human DNA

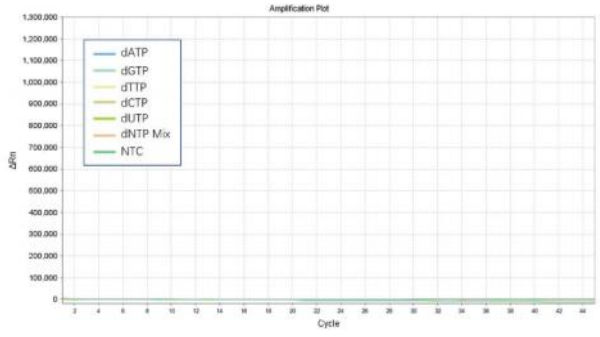


Fig . The detection results show that dNTPs have no human genome residues.

3.DNase, RNase and Endonuclease contamination

Fig. The detection results show that dNTPs have no DNase, RNase and Endonuclease.

4. PCR amplification (20 kb DNA)

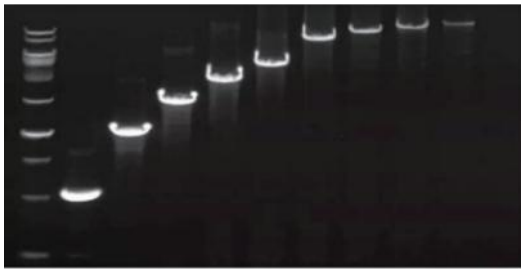


Fig. The PCR amplification result is the expected 20 kb product.

04 Reagents for Biopharma

Selection Guide

Product Line	Product Name	Cat.No.	Specifications
Reagents for mRNA Vaccine & Drug	BspQI GMP-grade (10 U/μL)	10664	500/2500 U/10/100 KU
Reagents for mRNA Vaccine & Drug	10×Digestion buffer 3 GMP-grade	10667	1/10/50 mL
Reagents for mRNA Vaccine & Drug	T7 High Yield RNA Synthesis Kit	10623	50/100/500 T
Reagents for mRNA Vaccine & Drug	T7 RNA Polymerase GMP-grade (250 U/μL)	10625	10/100/2500 KU/100 MU
Reagents for mRNA Vaccine & Drug	T7 RNA Polymerase GMP-grade (50 U/μL)	10624	5000/50000 U
Reagents for mRNA Vaccine & Drug	10× Transcription Buffer 2 GMP-grade	10670	1/10/25/500 mL
Reagents for mRNA Vaccine & Drug	10×Transcription Buffer GMP-grade (Mg2+ free)	10669	1/10/100 mL
Reagents for mRNA Vaccine & Drug	10×Transcription Buffer GMP-grade	10627	1/10/100 mL
Reagents for mRNA Vaccine & Drug	Recombinant Deoxyribonuclease I (DNase I, RNase-free) GMP-grade	10611	500/2000/10000 U
Reagents for mRNA Vaccine & Drug	Murine RNase inhibitor GMP-grade	10621	10/20/100 KU/1 MU
Reagents for mRNA Vaccine & Drug	Pyrophosphatase, Inorganic GMP-grade (0.1 U/μL)	10672	1/10/100 U
Reagents for mRNA Vaccine & Drug	Pyrophosphatase, Inorganic GMP-grade (1 U/μL)	10620	10/100/1000 U/40 KU
Reagents for mRNA Vaccine & Drug	mRNA Vaccinia Capping Enzyme GMP-grade	10614	2/10/100 KU/5 MU
Reagents for mRNA Vaccine & Drug	mRNA Cap 2'-O-Methyltransferase GMP-grade	10612	10/50/250 KU/20 MU
Reagents for mRNA Vaccine & Drug	10×Capping Buffer GMP-grade	10666	1/10/25/500 mL
Reagents for mRNA Vaccine & Drug	S-adenosylmethionine (SAM) GMP-grade (32 mM)	10619	0.5/25/50/500 mL
Reagents for mRNA Vaccine & Drug	ATP Solution GMP-grade (100 mM)	10129	1/25/500 mL
Reagents for mRNA Vaccine & Drug	CTP Solution GMP-grade (100 mM)	10130	1/25/500 mL
Reagents for mRNA Vaccine & Drug	UTP Solution GMP-grade (100 mM)	10131	1/25/500 mL
Reagents for mRNA Vaccine & Drug	GTP Solution GMP-grade (100 mM)	10132	1/25/500 mL
Reagents for mRNA Vaccine & Drug	NTP Set Solution(ATP, CTP, UTP, GTP, 100 mM each)	10133	1 Set (4 vials)
Reagents for mRNA Vaccine & Drug	Pseudo UTP sodium solution GMP-grade (100 mM)	10650	20/100/600 μL/1 mL
Reagents for mRNA Vaccine & Drug	N1-Me-Pseudo UTP sodium solution GMP-grade (100 mM)	10651	20/100 μL/1 mL
Reagents for mRNA Vaccine & Drug	ATP Tris Solution GMP-grade (100 mM)	10652	1/5/25/500 mL
Reagents for mRNA Vaccine & Drug	CTP Tris Solution GMP-grade (100 mM)	10653	1/5/25/500 mL
Reagents for mRNA Vaccine & Drug	UTP Tris Solution GMP-grade (100 mM)	10654	1/5/25/500 mL
Reagents for mRNA Vaccine & Drug	GTP Tris Solution GMP-grade (100 mM)	10655	1/5/25/500 mL
Reagents for mRNA Vaccine & Drug	Pseudo UTP Tris Solution GMP-grade (100 mM)	10656	20/100 μL/1/5 mL
Reagents for mRNA Vaccine & Drug	N1-Me-Pseudo UTP Tris Solution GMP-grade (100 mM)	10657	20/100 μL/1/5/25/500 mL
Reagents for mRNA Vaccine & Drug	RNase H (60 U/μL)	14522	1/10 mL
Viral vector production	UCF.METM UltraNuclease GMP-grade	20157	25/50/100 KU/1/5 MU
Viral vector production	Salt Active UltraNuclease GMP-grade	20159	96 T
Viral vector production	Hieff TransTM PEI Transfection Reagent-GMP	40821	25/50/100 KU/1/5 MU
Reagents for Biopharma Quality Analysis	Magnetic Residual DNA Sample Preparation Kit	18461	10/100 mL/1 L
Reagents for Biopharma Quality Analysis	CHO Host Cell DNA Residue Detection Kit (2G)	41305	25 T/100 T
Reagents for Biopharma Quality Analysis	HEK293 Host Cell DNA Residue Detection Kit (2G)	41306	50 T/100 T
Reagents for Biopharma Quality Analysis	E.coli Host Cell DNA Residue Detection Kit (2G)	41308	50 T/100 T
Reagents for Biopharma Quality Analysis	Replication-competent Lentivirus (RCL) Detection Kit	41311	50 T/100 T
Reagents for Biopharma Quality Analysis	UltraNuclease ELISA Kit	36701	50 T/100 T
Reagents for Biopharma Quality Analysis	Mycoplasma Real-time qPCR Detection Kit	40618	25 T/100 T

The mRNAtools Facility

Based on wide experience and technical advantages in the enzyme development and industrial production, Yeasen constructed a new facility, named as “mRNAtools”, to supply raw materials for mRNA-based drugs. Covering 50000 square feet, the mRNAtools facility is built and operated in accordance with GMP regulations and is equipped with 2×1500L automatic fermentation equipment, industrial-scale purification and lyophilization equipment.

Up to now, the mRNAtools facility has been applied to the production of raw materials required in the manufacture of mRNA-based drugs. These raw materials are manufactured in compliance with the ISO 13485 QMS standards and GMP regulations, satisfying the production and registration requirements of customers.

Workflow & Reagents

Yeasen can supply all raw materials required in mRNA synthesis

Template Generation

Plasmid Linearization

- BspQI (GMP)
- BsaI (GMP)
- XbaI (GMP)

In Vitro Transcription

IVT

- T7 High Yield RNA Synthesis Kit
- T7 RNA Polymerase (GMP)
- T7 RNA Polymerase Mix (GMP)
- Pyrophosphatase, Inorganic (GMP)
- Murine RNase Inhibitor (GMP)
- DNase I (GMP)
- 10×Transcription Buffer (GMP)
- Natural and Modified Nucleoside Triphosphates (GMP)

mRNA Modification

mRNA Capping

- Vaccinia Capping Enzyme (GMP)
- 2'-O-Methyltransferase (GMP)
- Cap Analogs (GMP)
- S-adenosylmethionine (SAM) (GMP)
- 10×Capping Buffer (GMP)

Poly(A) Tailing

- Poly(A) Polymerase

mRNA Purification

Purification

- mRNA Isolation Master Kit
- RNA Cleaner
- Magnetic Separation Rack

10664 BspQI GMP-grade (10 U/μL)

Features

- Type IIS restriction enzymes recognize asymmetric DNA sequences and cleave outside of their recognition sequence
- Restriction Enzyme Cut Site: GCTCTTC(1/4)
- Digestion of DNA to obtain specificsticky ends
- Isolated from a recombinant source
- Tested for the absence of endonucleases exonucleases, RNases

Validation Data

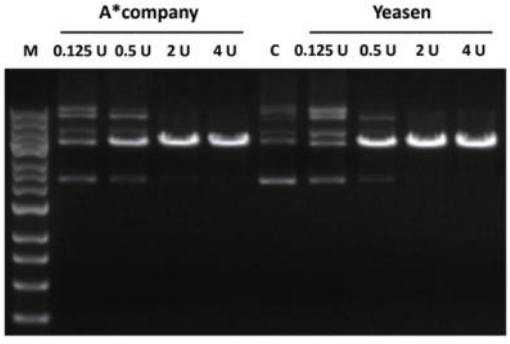


Figure1. The performance of YEASEN BspQI is superior.

In a 50 μL reaction system, 1 μg of λDNA was treated with the corresponding amount of BspQI (incubate at 50 °C for 60 min and then incubate at 80 °C for 20 min to inactivate BspQI). Then 20 μL of the reaction solution was loaded.

M: DNA marker

C: The control group without BspQI treatment

In Vitro Transcription (IVT)

01 Up to 180 μg of RNA per reaction from 1 μg of the control template

02 Optimized reaction system for theIVT process

03 Decrease the dsRNA production

04 Higher RNA integrity and purity

A B

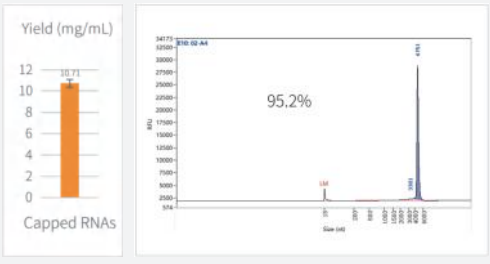


Figure2. Synthesis of capped RNA in vitro.

The reaction was incubated in PCR instrument at 37°C for 2h, and then purified by magnetic beads (Cat#12602). The yield result was assayed by NanoDrop spectrophotometer as shown in Figure 2A. The integrity result was analyzed by capillary electrophoresis as shown in Figure 2B.

mRNA Capping

Features

01 Highest efficiency capping

02 Tested for the absence of endonucleases, exonucleases, Rnases

03 High yield

Validation Data

Figure1. The capping effiffifficiency of Yeasen post-transcriptional capping reaction could be close to 99%.

A

Component	20 μL Reaction	Final Concentration
Denatured RNA	10 μg	10 μg
10× Capping Buffer	2 μL	2 μL
GTP (10 mM)	1 μL	1 μL
SAM (10 mM, fresh)	1 μL	1 μL
Murine RNase Inhibitor	20 U	20 U
Vaccinia Capping Enzyme	50 U	50 U
2´-O-Methyltransferase	50 U	50 U
RNase-free H2O	Up to 20 μL	Up to 20 μL

B

	Percentage(%)
Cap1	99.03
Cap0	0.21
G-Cap	0.14
pp-RNA	0.62
ppp-RNA	0

10 μg RNAs were denatured by incubation at 65°C for 5 min before capping. A 20 μL post-transcriptional capping reaction was set up according to the table (A) and incubated at 37°C for 2 hours in a PCR machine. Transcripts were purifified by magnetic beads (RNA Cleaner, Yeasen#12602). Then the capping effiffifficiency is detected by LC-MS (B).

Figure2. The capping effiffifficiency of Yeasen co-transcriptional capping reaction could be close to 99%.

A

Component	20 μL Reaction	Final Concentration
10× Transcription Buffer	2 μL	1×
T7 RNA Polymerase	250 U	-
Pyrophosphatase, Inorganic	0.04 U	-
Murine RNase Inhibitor	20 U	-
A/G/C/N1-Me-pUTP (100mM)	2 μL each	10 mM each
Cap Analogs (100mM)	2 μL	10 mM
DNA Templates	1 μg	-
RNase-free H2O	Up to 20 μL	-

B

	Percentage(%)
Cap1	98.93
ppp-RNA	1.07

A 20 μL co-transcriptional capping reaction was set up according to the table (Page8,Figure 2A) and incubated at 37°C for 2 hours in a PCR machine. Transcripts were purifified by magnetic beads (RNA Cleaner, Yeasen#12602). Then the capping effiffifficiency is detected by LC-MS.

Viral vectors are also explored for use in gene and cell therapy. Transfection reagents are used as one of the important raw materials for virus amplification, and they play a key role in the production of viral vectors. Therefore, the use of GMP-grade materials is conducive to controlling product quality and traceability, and facilitating product release and compliance.

After years of technology accumulation, Yeasen launched GMP-grade PEI transfection reagents. It can help prepare safe and efficient viral vectors for biopharmaceutical enterprises. What’ s more, it also can help products meet regulatory requirements and is used for the prevention and treatment of human diseases.

Furthermore, in the production and purification process of viral vector drugs, etc., the removal of nucleic acid impurities is crucial.Yeasen's GMP-grade nucleases have ultra-high purity and activity and compliant production system standards. It can be efficiently used for the removal of nucleic acids in the production of biological products.

UCF.ME™ UltraNuclease GMP-grade 20157

Features

purity ⩾ 99%
specific activity ⩾ 1.5×106 U/mg

no animal origin
no antibiotics; lower endotoxin

degrade all forms
of DNA and RNA

01 Strong adaptability

02 High purity and activity

03 GMP-grade manufacturing

04 Comply with pharmacopeia

05 Qualification

06 Wide range of applications

strong tolerance
adapt to a variety of
reaction conditions

strict standards to meet
the needs of large-scale
use for research to manufacture

product gets the FDA DMF
filling which can shorten the
customers for new drug application

Validation Data

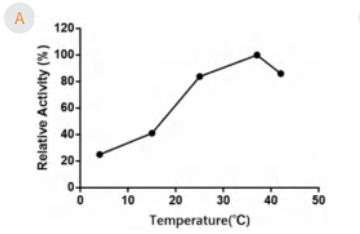


Figure1. The enzyme activity increased as temperature increases, 37°C was the optimum temperature(1A); The enzymes was being active in the pH 4-10 range, with pH 8.0 being the most appropriate(1B).

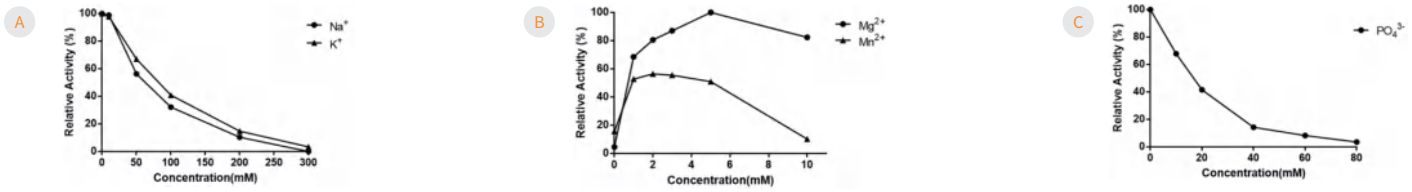


Figure2. Effects of different ions on enzymes. Na^+/K^+ inhibited enzyme activity, and the activity was completely lost when the concentration exceeds 300 mM(2A); Under the condition of 5mM Mg^{2+}, the enzyme exerted the maximum activity; In the absence of Mg^{2+} , 1-2mM Mn^{2+} was involved to make the enzyme active(2B); Increased concentration of PO_4^{3-} significantly inhibited enzyme activity(2C).

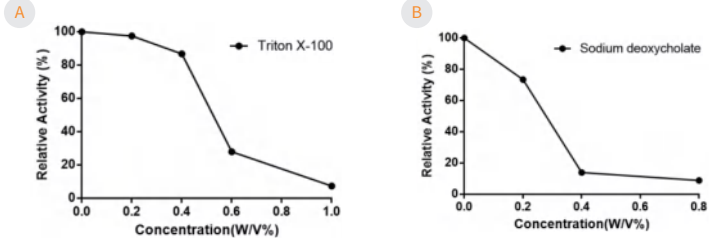


Figure 3. Triton® X-100 and sodium deoxycholate both affected enzyme activity and need to be controlled at low concentrations.

40821 Hieff Trans™ PEI Transfection Reagent-GMP

Features

High cost performance:

economical and practical
high transfection efficiency

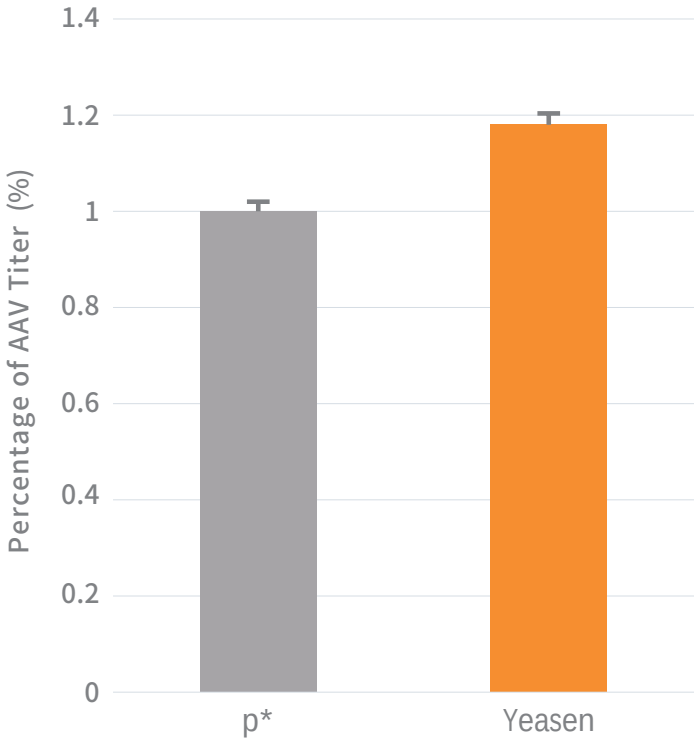
Sufficient capacity
and stable batch

The audit materials are complete
and the product
declaration is not worried

GMP-grade

Validation Data

Figure1. The titers of AAV harvested after transfection



Hieff Trans™ PEI Transfection Reagent-GMP is superior to other PEI product.The virus titer is 1.18 times of competing product P*.

Process-related impurities or contaminants involved in the manufacturing process of biologics is strictly supervised by the drug regulatory authorities of various countries.Because,it plays a crucial role in the safety and effectiveness of the final product.

Therefore,Yeasen independently developed a series of biological product quality and safety control products.They can detect cell substrates (e.g., host cell DNA), mycoplasma contamination, and nuclease residues.

Yeasen's Impurity Testing Offerings

Product-related impurities | **Process-related impurities** | **Contaminant**

Replication Lentivirus Detection

Replication-competent Lentivirus (RCL) Detection Kit

Host Cell Residual DNA Detection

- CHO Host Cell DNA Residue Detection Kit
- HEK293 Host Cell DNA Residue Detection Kit
- *E.coli* Host Cell DNA Residue Detection Kit
- Magnetic Residual DNA Sample Preparation Ki

Mycoplasma Detection

Mycoplasma Real-time qPCR Detection Kit

Mycoplasma Detection

Mycoplasma Real-time qPCR Detection Kit

Host Cell DNA Residue Detection Kit

Features

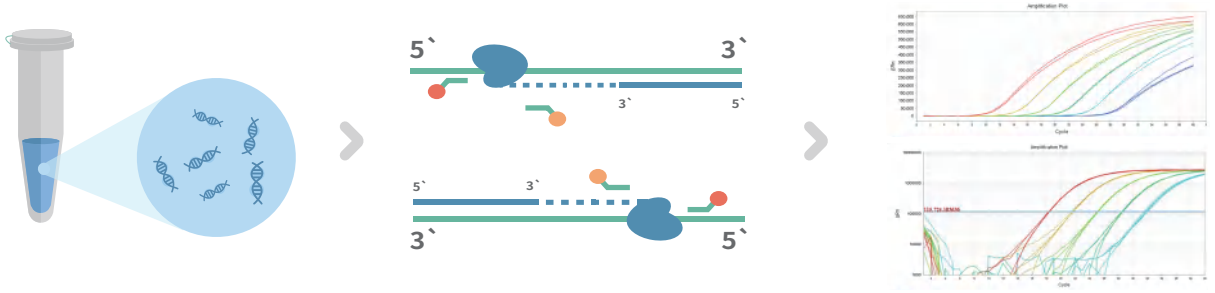
01 High-sensitivity quantitation using proven real-time qPCR technology

02 Specificity for target host cell DNA; no cross-reactivity with unrelated DNA

03 Optimized sample preparation for quantitative recovery from complex matrices

04 Accurate, reliable, and reproducible results

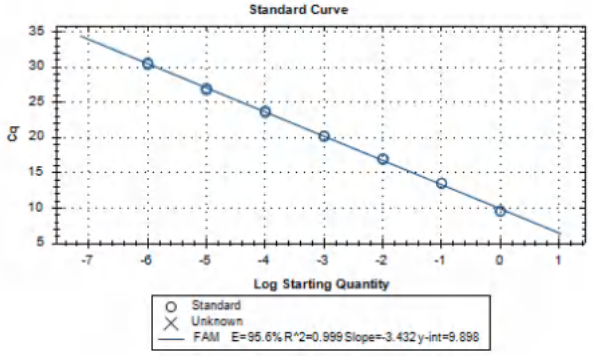
Workflow



DNA Extraction | PCR Amplification | Data Analysis

Validation Data

Figure1 Standard curve generated from a 10-fold dilution series of CHO standard DNA.



Ordering Information

Description	Part Number
CHO Host Cell DNA Residue Detection Kit (2G)	41305ES
HEK293 Host Cell DNA Residue Detection Kit (2G)	41306ES
E.coli Host Cell DNA Residue Detection Kit (2G)	41408ES
SV40LTA&E1A Residue DNA Detection Kit	41310ES

The results show that the host cell residual DNA quantitation kits exhibit a broad dynamic range and high sensitivity.

MolPure™ Magnetic Residual DNA Sample Preparation Kit 18461

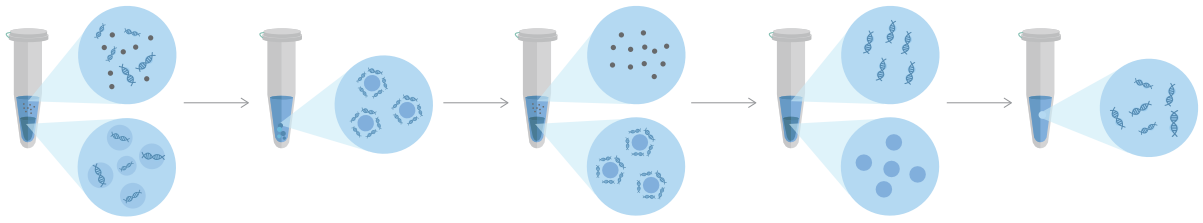
Features

01 Highlyefficient DNA recovery from typical biopharmaceutical purification process samples

02 Consistent performance has been demonstrated across awide variety of complextest sample matrices

03 Achieve efficiencies through automation

Workflow



DNA extraction methods using magnetic beads

Validation Data

Figure1 DNA Recovery Using the MolPure™ Magnetic Residual DNA Sample Preparation Kit performance data from independent validation study using *E.coli* genomic DNA spike per sample.

Sample	Concentration	Average Recovery (%)	Average CV (%)
300pg/uL	288.49pg/uL	96.16%	7.66
150pg/uL	162.51pg/uL	108.34%	10.02
10pg/uL	10.48pg/uL	104.89%	8.15
5pg/uL	4.66pg/uL	93.20%	9.67
60fg/uL	56.97fg/uL	94.95%	12.82
30fg/uL	31.76fg/uL	104.91%	12.49

36701 UCF.ME® UltraNuclease ELISA Kit

Features

Ultra-low Toxicity
Only block the bacterial protein synthesis rather than animal cells

Excellent Stability
Stored at -15°C ~ -25°C for 18 months

Facilitated Operation
Just added into the culture medium

Rapid Onset
Take effect in 3 days

Wide Applicability
Effective against most mycoplasmas

Validation Data

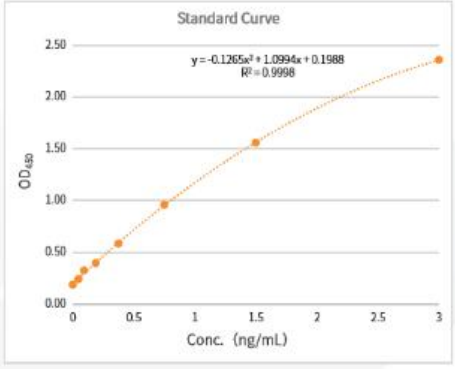


Figure1. The Standard Curve

The detection range is 0.047-3 ng/mL, $R^2 \geqslant 0.99$

Figure2. The Accuracy

Conc.	OD_{450}				Result (ng/mL)	
ng/mL	Repeat 1L	Repeat 2	Repeat 3	Average	Conc.	Recovery%
3	2.271	2.222	2.287	2.260	2.950	98%
1.5	1.495	1.488	1.514	1.499	1.540	103%
0.750	0.868	0.856	0.890	0.871	0.735	98%
0.375	0.537	0.525	0.522	0.528	0.358	95%
0.188	0.373	0.369	0.389	0.377	0.201	107%
0.093	0.261	0.255	0.258	0.258	0.082	88%
0	0.184	0.195	0.187	0.189	0	0

The results show that the host cell residual DNA quantitation kits exhibit a broad dynamic range and high sensitivity.

MycAway™ Mycoplasma Real-time qPCR Detection Kit 40618

Features

Highly sensitive

The detection limit is as low as 10 CFU/mL

Remarkable accuracy

Probe-based detection avoided false positive problem caused by the dye-based method, and with excellent lot-to-lot consistency

Applicable to a variety of samples (Cell, virus, culture medium etc)

Good specificity

Multiple closely related species were verified to have no cross-reaction

01 **Compliance with regulatory requirements**

Detection method and procedure were verified according to pharmacopoeia requirements (EP 2.6.7 Vs JPXVII)

02 **Wide detection range of mycoplasma**

Detect 105+ individual species mycoplasma

03 **Facilitated operation**

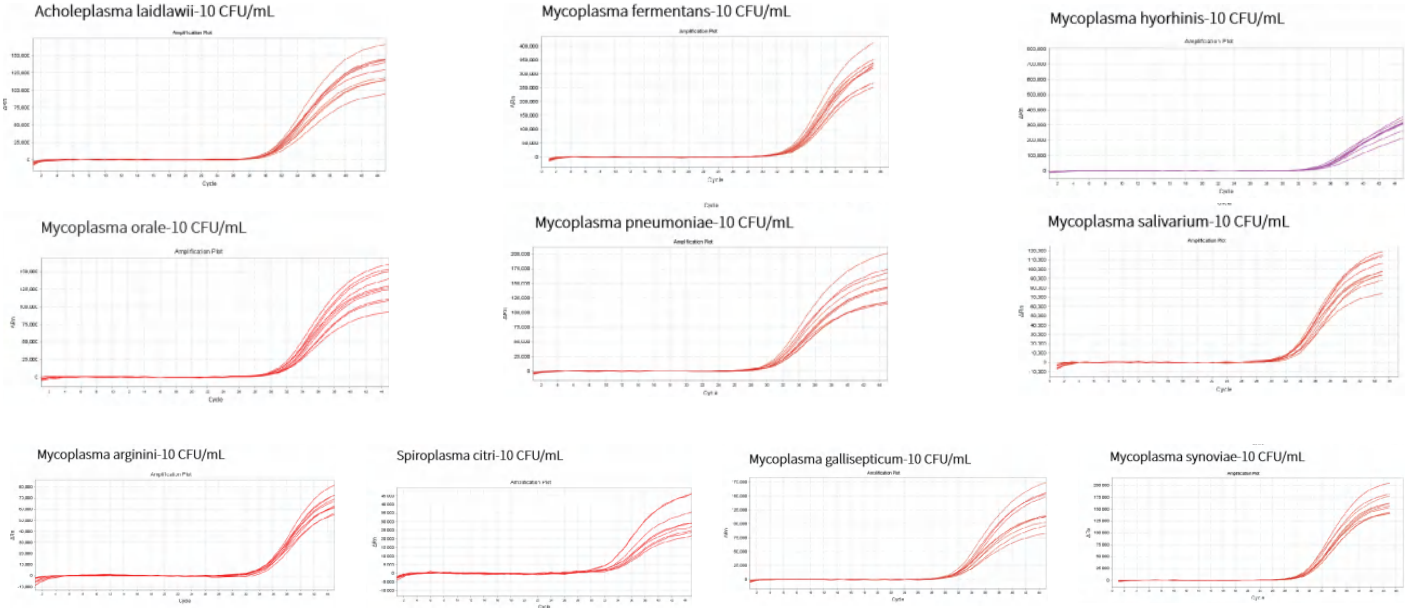
Detection can be achieved within 3 hours

04 **High security**

The positive quality control in the kit with no risk of infection

Validation Data

Figure1. The Detection Sensitivity of each mycoplasmas



The figure shown that Mycoplasma detection kit can detect 10 CFU/mL for each mycoplasma test species described in EP/JP/USP/ChP/WHO

YEASEN

To enable success of our customers
Together to make a healthier and brighter world

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