DNA Amplification

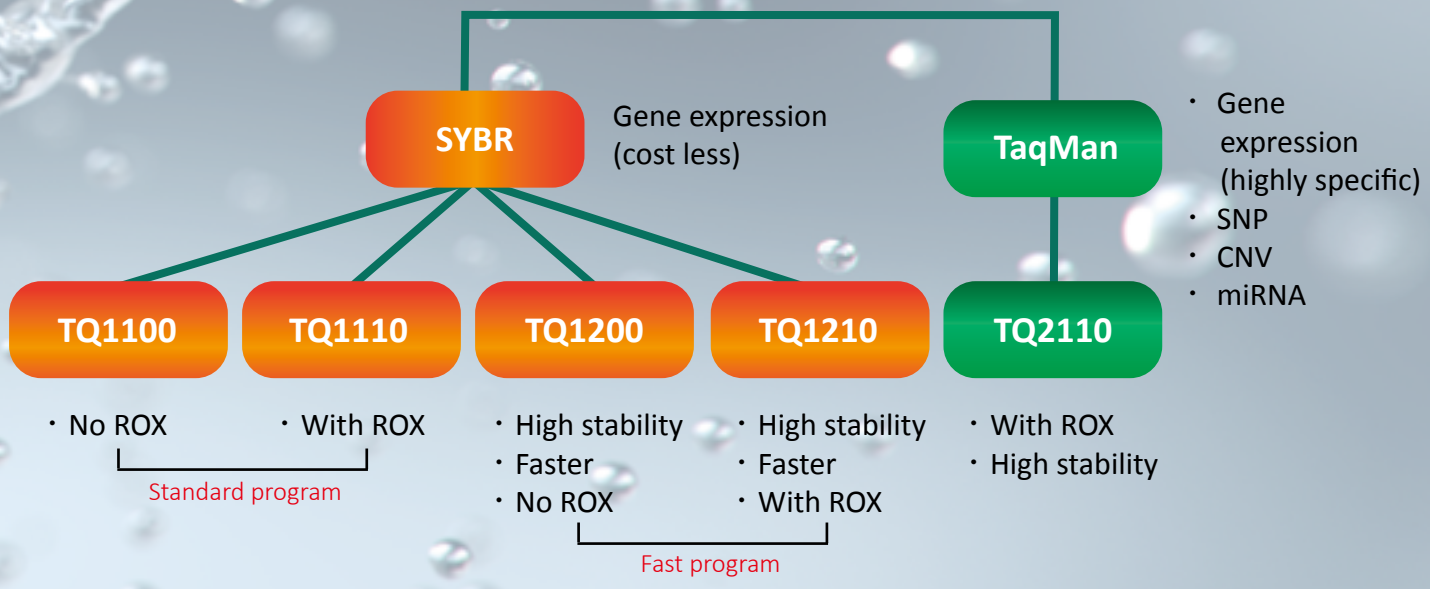
SMOBIO DNA Polymerase Information

	High Fidelity PCR			Standard PCR	Extraction free PCR	Hot Start PCR
Catalog number	TF1000	TF3000	TK1000	TP1000	TP2000	TP5000
DNA polymerase	SMO-HiFi	G-HiFi	Klen-Taq	Taq	Blood direct	Hot Start II
Properties						
Fidelity (comapred to Taq)	70X	70X	4X	1X	1X	1X
Amplification length	12 kb	40 kb	10 kb	8 kb	≦2kb	8 kb
Extenstion rate	1 kb/ 10 s	1 kb/ 7 s	1 kb/ 20 s	1 kb/ 20 s	1 kb/ 20 s	1 kb/ 20 s
Product end structure	blunt end	blunt end	3'A/blunt end	3'A	3'A	3'A
3'→5' exonuclease activity	Yes	Yes	Yes	No	No	No
5'→3' exonuclease activity	No	No	No	Yes	Yes	Yes
Units/ 50 µl reaction volume	1U	1U	1.25U	1.25U	1.25U	1.25U
Annealing temperature	Tm-5	Tm-5	Tm-5	Tm-5	Tm-5	Tm-5
Applications						
Routine PCR	✓	✓	✓	★	✓	★
Colony PCR				★		★
High fidelity	★	★	✓			
High yield PCR	★	✓	✓	✓		✓
High reaction rate	★	★				
Long amplicon	✓	★	✓			
GC rich template	★	★				
AT rich template			✓	✓	✓	✓
High throughput						✓
Multiplex PCR	✓	✓		✓	★	✓
Site-directed mutagenesis	★	★				
Additional Formats						
Master Mix				TP1100		
Master Dye Mix				TP1200	TP2100	
Fluorescent Master Mix				TP1260		

SMOBIO Q-PCR Master Mix Information

Product Name	ExcelTaq™ 2X Q-PCR Master Mix (SYBR, no ROX)	ExcelTaq™ 2X Q-PCR Master Mix (SYBR, ROX)	ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, no ROX)	ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, ROX)	ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX)
Cat. No.	TQ1100	TQ1110	TQ1200	TQ1210	TQ2110
Detection chemistry	SYBR	SYBR	SYBR	SYBR	TaqMan
Blue contrast dye	✓	✓	✓	✓	X
ROX reference dye	X	✓	X	✓	✓
Time required for enzyme activation	10 min	10 min	2 min	2 min	10 min
qPCR program	Standard	Standard	Fast and Standard	Fast and Standard	Standard

How to choose SMOBIO Q-PCR Master Mix



SMO-HiFi™ DNA Polymerase

Blunt end | 3'→5' | HiFi | GC-rich

TF1000 (1 U/µl, 100 U × 1)

Description

The SMO-HiFiTM DNA Polymerase is a new genetically modified, recombinant DNA polymerase with fidelity 70 times higher than Taq DNA polymerase during amplification, as well as very high elongation rate. Being highly thermostable, SMO-HiFiTM DNA Polymerase can remain viable even after being subjected to boiling for 2 minutes. The SMO-HiFi™ DNA Polymerase is also designed to operate in much lower Mg2+ concentration as compared to other DNA polymerase products.

Features

- 5'→3' DNA polymerase activity
- 3'→5' exonuclease (proofreading) activity
- High reaction rate (up to 1 kb/10 second)
- High fidelity, 70 times higher than Taq DNA polymerase
- Blunt end amplicons
- Thermo-stable: half-life is more than 10 hrs at 95°C

TF1000
SMO-HiFi™ DNA Polymerase

Contents

Component	Volume
SMO-HiFi™ DNA Polymerase (1 U/µl)	100 µl
10X HiFi™ Buffer	600 µl
25mM $MgSO_4$	500 µl
dNTPs Mix (2 mM each)	600 µl
DMSO	600 µl

Storage buffer

50 mM Tris-HCl (pH 8.0), 50 mM KCl, 0.1 mM EDTA, 1 mM DTT, stabilizers, and 50% (v/v) glycerol

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C.

Storage

-20°C for 24 months

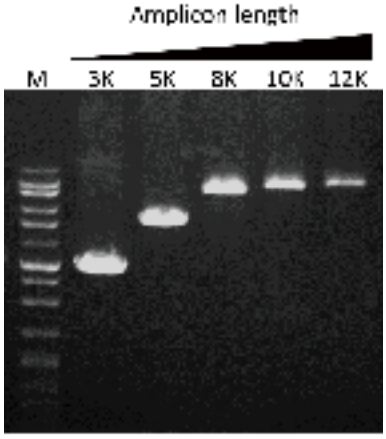


Fig. 1. SMO-HiFi™ DNA Polymerase's high processability enables reliable amplification of λDNA up to 12 kb in length (M: DM5100).

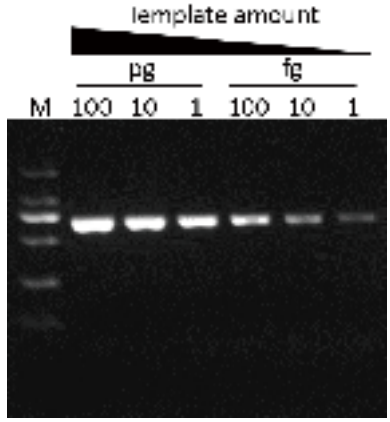


Fig. 2. SMO-HiFi™ DNA Polymerase can amplify PCR products from as little as 1 fg of template DNA (M: DM2000).

G-HiFi™ DNA Polymerase

Blunt end | 3'→5' | HiFi | GC-rich

TF3000 (1 U/µl, 100 U × 1)

Description

The G-HiFi™ DNA Polymerase is a new genetically modified, recombinant DNA polymerase suitable for GC-rich templates that are difficult to amplify. The fidelity of G-HiFi™ DNA Polymerase is 70 times higher than that of Taq DNA polymerase. The high extension rate of G-HiFi™ DNA Polymerase is achieved by blending the DNA polymerase with an elongation enhancer. The optimized 5X G-HiFi™ Buffer includes special ingredients that suppress non-specific amplification as well as plateau effect produced by conventional PCR. With the optimized 5X G-HiFi™ Buffer, G-HiFi™ DNA Polymerase is capable to amplify most templates, such as longer targets (up to 40 kb from lambda DNA) and that contain GC-rich sequences.

Features

- 5'→3' DNA polymerase activity
- 3'→5' exonuclease (proofreading) activity
- Suitable for GC-rich templates
- High reaction rate: 7 seconds/kb
- High fidelity: 70 times higher than Taq polymerase
- Generates blunt end amplicons
- Vast elongation capability (up to 40 kb)
- Thermo-stable for more than 10 hrs at 95°C.

TF3000
G-HiFi™ DNA Polymerase

Contents

Component	Volume
G-HiFi™ DNA Polymerase (1 U/µl)	100 µl
5X G-HiFi™ Buffer	1200 µl
dNTP Mix (2 mM each)	600 µl

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C.

Storage buffer

50 mM Tris-HCl (pH 8.0), 50 mM KCl, 0.1 mM EDTA, 1 mM DTT, stabilizers, and 50% (v/v) glycerol

Storage

-20°C for 24 months

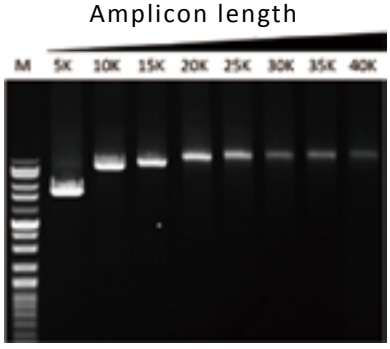


Fig. 1. G-HiFi™ DNA Polymerase's high processability enables reliable amplification of λDNA up to 40 kb in length (M: DM5100).

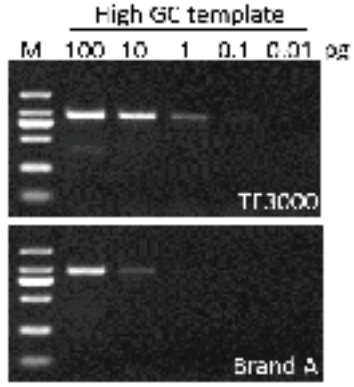


Fig. 2. G-HiFi™ DNA Polymerase performs higher sensitivity for high GC content templates (GC: 71%) compare to high fidelity DNA Polymerase from Brand A (M: DM2000).

ExcelTaq™ Klen-Taq DNA Polymerase

TK1000 (5 U/µl, 500 U × 1)

Description

The ExcelTaq™ Klen-Taq DNA Polymerase is a specially blended enzyme mix containing KlenTaq-1 DNA polymerase (a 5'-exo-minus, N-terminal deletion of *Taq* DNA polymerase) and a small amount of a proof-reading DNA polymerase. This unique blending helps to improve the fidelity, yield and processivity of the resultant PCR process. Klen-Taq is also highly robust, showing high tolerance of varying concentrations of Mg^{2+}; it is highly thermostable and has four times the fidelity compared to *Taq* DNA polymerase. The Excel-Taq™ Klen-Taq DNA Polymerase is ideal for DNA amplifications 0.5-5 kb in length on genomic DNA, and up to 10 kb on less complex templates.

Features

- 5'→3' DNA polymerase activity
- 3'→5' exonuclease activity (proofreading)
- Thermo-stable: up to 98°C during PCR denaturing step
- 4X fidelity compared to *Taq* DNA polymerase
- Robust PCR performance, resistant to variance in PCR conditions

Contents

Component	Volume
ExcelTaq™ Klen-Taq DNA Polymerase (5 U/µl)	100 µl
10X Klen Buffer	1.2 ml

ExcelTaq™ Klen-Taq Polymerase mixture

DNA polymerase, 5 units/µl
Proofreading DNA polymerase Trace

Storage Buffer

40 mM Tris-HCl (pH 7.5), 50 mM KCl, 25 mM $(NH_4)_2SO_4$, 0.1 mM EDTA, 5.0 mM 2-mercaptoethanol, stabilizer, 50% (v/v) glycerol

10X Klen Buffer

400 mM Tricine-KOH (pH 9.2), 150 mM KOAc, 35 mM Mg $(OAc)_2$, 750 µg/ml BSA

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into an acid-insoluble material in 30 minutes at 74°C.

Storage

-20°C for 24 months

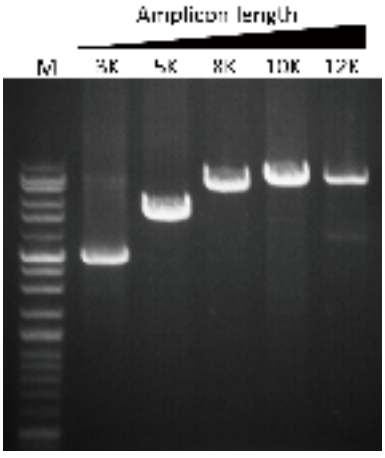


Fig. 1. ExcelTaq™ Klen-Taq DNA Polymerase can amplify PCR products from λDNA up to 12 kb (M: DM5100).

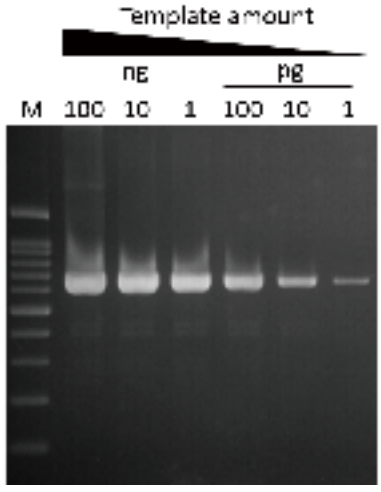


Fig. 2. ExcelTaq™ Klen-Taq DNA Polymerase can amplify PCR products from as little as 1 pg of template DNA (M: DM2100).

ExcelTaq™ Taq DNA Polymerase

TP1000 (5 U/µl, 500 U x 1)

Description

The ExcelTaq™ *Taq* DNA Polymerase is a recombinant thermo-stable DNA polymerase expressed and purified from an *E. coli* strain carrying the cloned gene. With high DNA synthesis rate and thermo-stability, ExcelTaq™ *Taq* DNA Polymerase is suitable for general and specialized PCR applications.

Features

- 5'→3' DNA polymerase activity
- 5'→3' exonuclease activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- Thermo-stable: half-life is more than 40 min at 95°C

Contents

Component	Volume
ExcelTaq™ *Taq* DNA Polymerase (5 U/µl)	100 µl
10X *Taq* Buffer	2 x 1ml

Storage Buffer

20 mM Tris-HCl (pH 8.0), 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, Stabilizer, 50% (v/v) glycerol

10X Taq Buffer

200 mM Tris-HCl (pH 8.8), 100 mM KCl, 100 mM $(NH_4)_2SO_4$, 20 mM $MgCl_2$, 1% Triton X-100

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into an acid-insoluble material in 30 minutes at 74°C.

Storage

-20°C for 24 months

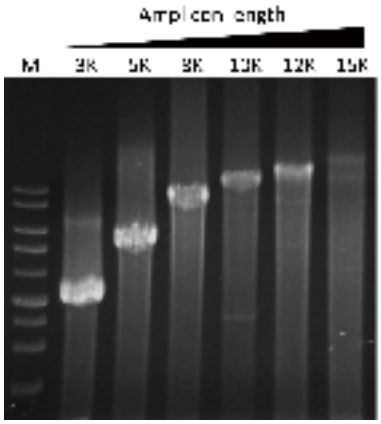


Fig. 1. ExcelTaq™ *Taq* DNA Polymerase can amplify PCR products from λDNA up to 15 kb (M: DM3100).

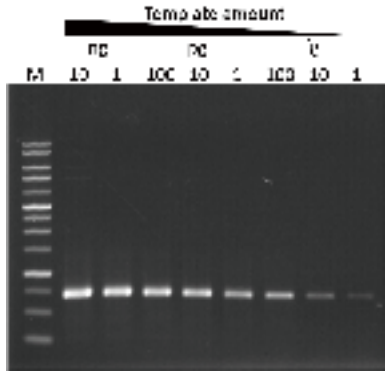


Fig. 2. ExcelTaq™ *Taq* DNA Polymerase can amplify PCR products from as little as 1 fg of template DNA (M: DM3100).

ExcelTaq™ PCR Master Mix

TP1100 (200 Rxn) TP1120 (100 Rxn)

Description

The ExcelTaq™ PCR Master Mix is a ready-to-use mixture for amplifying targeted DNA fragments. It is designed to serve as ready-to-use master mix for virtually all PCR applications. The mixture contains all essential ingredients for PCR with the exception of template and primers. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors. The PCR Master Mix is supplied as a 5X/ 2X concentrated master mix, that is a mixture of recombinant *Taq* DNA polymerase, reaction buffer, $MgCl_2$ (TP1120 contains $MgSO_4$), dNTPs, and enzyme stabilizer.

Contents

TP1100 Component	Volume
ExcelTaq™ 5X PCR Master Mix	2 x 1 ml
6X DNA Loading Dye (Blue)	2 x 1 ml

TP1120 Component	Volume
ExcelTaq™ 2X PCR Master Mix ($MgSO_4$)	2 x 1.25 ml
6X DNA Loading Dye (Blue)	1 ml

Storage

4°C	for 6 months
-20°C	for 24 months

Features

- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- High throughput PCR
- High Yield PCR
- High reproducibility, less pipetting errors

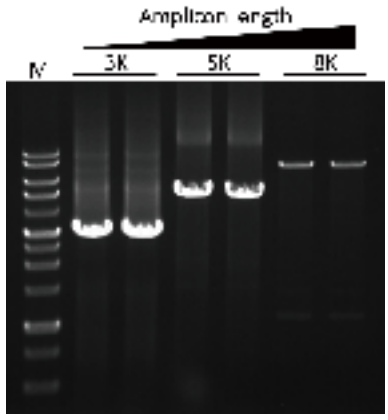


Fig. 1. The ExcelTaq™ 5X PCR Master Mix can reliably amplify λDNA up to 8 kb in length (M: DM3100).

ExcelTaq™ PCR Master Dye Mix

TP1200 (200 Rxn)

Description

The ExcelTaq™ PCR Master Dye Mix is a ready-to-use mixture for amplifying targeted DNA fragments. It is designed to serve as ready-to-use master mix for virtually all PCR applications. The mixture contains all essential ingredients for PCR with the exception of template and primers. This not only saves valuable time in the laboratory, but also reduces the number of pipetting and reagent handling errors. The PCR Master Dye Mix is supplied as a 5X concentrated ready-to-use mix, that is a mixture of recombinant Taq DNA Polymerase, reaction buffer, $MgCl_2$, dNTPs, enzyme stabilizer and PCR friendly loading dye solution containing a tracking dye (Bromophenol blue) enabling efficient amplification of template in PCR and allowing the user to prepare a PCR reagent-loading dye master mix conveniently.

Contents

TP1200 Component	Volume
ExcelTaq™ 5X PCR Master Dye Mix	2 x 1 ml

Storage

4°C	for 6 months
-20°C	for 24 months

Features

- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- High throughput PCR
- High Yield PCR
- High reproducibility, less pipetting errors
- Load directly into electrophoresis

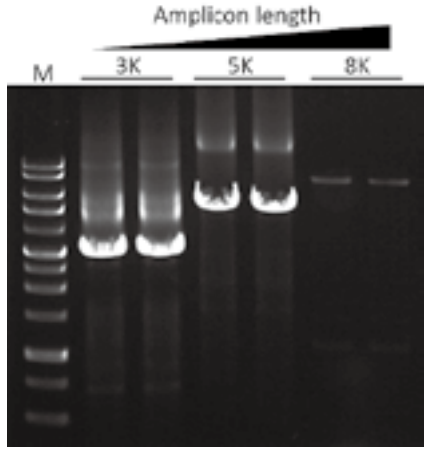


Fig. 1. The ExcelTaq™ 5X PCR Master Dye Mix can reliably amplify λDNA up to 8 kb in length (M: DM3100).

ExcelTaq™ 5X Fluorescent PCR Master Mix

TP1260 (200 Rxn)

Description

The ExcelTaq™ 5X Fluorescent PCR Master Mix is a ready-to-use mixture for amplifying targeted DNA fragments. It is designed to serve as ready-to-use master mix for virtually all PCR applications. The ExcelTaq™ 5X Fluorescent PCR Master Mix is supplied as a 5X concentrated ready-to-use mixture containing all the essential ingredients for PCR with the exception of template and primers. In addition, the mixture contains a tracking dye (Bromophenol blue), and a safer fluorescent DNA staining dye, which enables the user to track the electrophoresis process in real time as well as eliminating the need for staining process. The resultant PCR reaction mixture is sufficiently dense enough to be loaded directly into 1X TAE or 1X TBE buffer for electrophoresis.

Features

- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- High throughput PCR
- High Yield PCR
- High reproducibility, less pipetting errors
- Load directly into electrophoresis
- DNA bands can be visualized directly under UV or 470 nm blue light illumination

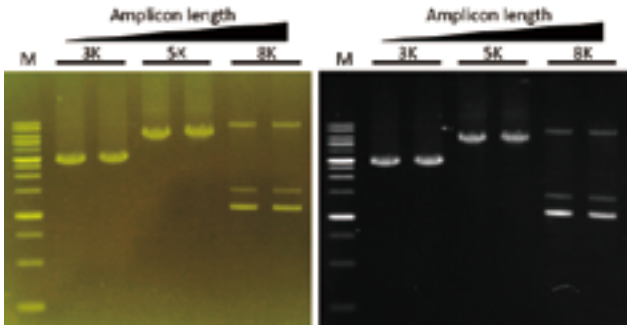
Contents

Component	Volume
ExcelTaq™ 5X Fluorescent PCR Master Mix	2 x 1 ml

Storage

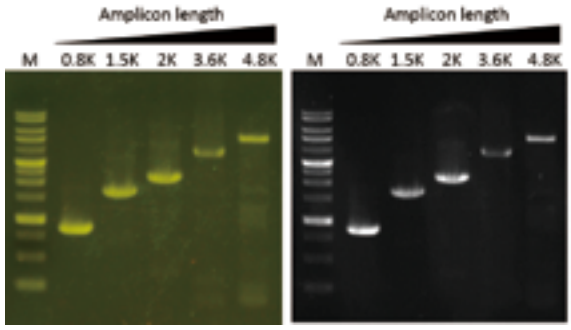
Protected from light

4°C	for 6 months
-20°C	for 24 months



Viewed with B-Box™ Viewed with UV light

Fig. 1. λDNA was amplified with ExcelTaq™ 5X Fluorescent PCR Master Mix. The λDNA was amplified with specific primers for amplifying different ranges. The pictures were captured under B-BOX™ blue light (left). While using UV light (right), the amplicons can be seen in the right picture (M: DM 3160).



Viewed with B-Box™ Viewed with UV light

Fig. 2. Colony PCR with ExcelTaq™ 5X Fluorescent PCR Master Dye Mix. The JM109 or modified JM109 was used for amplifying the genomic galactosidase Z gene. The pictures were captured under B-BOX™ blue light (left). While using UV light (right), the amplicons can be seen in the right picture (M: DM 3160).

ExcelTaq™ Blood Direct DNA Polymerase

TP2000 (5 U/µl, 500 U x 1)

Description

The ExcelTaq™ Blood Direct DNA Polymerase is designed for amplifying targeted DNA directly from whole blood, eliminating the need for a lengthy DNA isolation process. The ExcelTaq™ Blood Direct DNA Polymerase is highly tolerant in the presence of PCR interfering/ inhibiting substances in blood, such as IgG, hemoglobin, and lactoferrin. The ExcelTaq™ Blood Direct DNA Polymerase is compatible with most anticoagulants, such as citrate, EDTA, and heparin (Fig. 1). The ExcelTaq™ Blood Direct DNA Polymerase includes a pair of positive control primers (CCR5) that are compatible with primate blood samples.

Features

- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- Perform PCR directly from blood samples
- Compatible with most anticoagulants
- Suitable for multiplex PCR

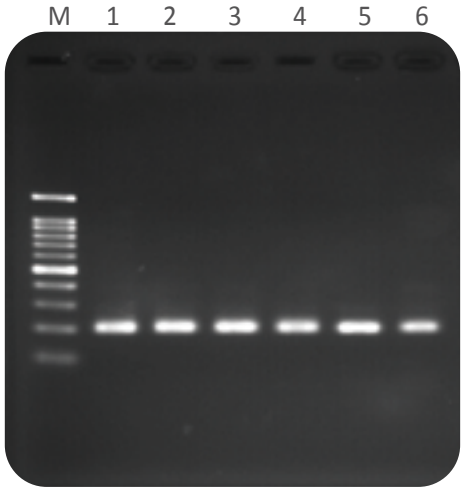


Fig. 1. The ExcelTaq™ Blood Direct DNA Polymerase amplified 200 bp from separately treated blood samples using CCR5 specific primers. M: DM2100 marker, lane 1: fresh blood, lane 2: blood + citrate, lane 3: blood + EDTA, lane 4: blood + EDTA/ NaF, lane 5: blood + Heparin, lane 6: 1 mm^2 of dry blood on filter paper.

Contents

Component	Volume
ExcelTaq™ Blood Direct DNA Polymerase (5 U/µl)	100 µl
5X Blood Direct Buffer	4 x 1 ml
Positive Control Primers (10 µM, each)	50 µl

Storage buffer

20 mM Tris-HCl (pH 8.0), 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, stabilizer, 50% (v/v) glycerol

Storage

4°C	for 6 months
-20°C	for 24 months

ExcelTaq™ 5X Blood Direct PCR Master Mix Kit

TP2100 (200 Rxn)

Description

The ExcelTaq™ 5X Blood Direct PCR Master Mix Kit is designed for amplifying targeted DNA directly from whole blood, eliminating the need for a lengthy DNA isolation process. The PCR master mix kits contains all the essential components for a PCR reaction and a PCR friendly loading and tracking dye (Orange G) allowing the user to easily prepare a PCR reagent and directly loading PCR product into agarose gel for electrophoresis.
The ExcelTaq™ 5X Blood Direct PCR Master Mix Kit is capable of tolerating the presence of PCR interfering/inhibiting substances in blood and is ideal for high-throughput screening of blood samples for high reproducibility. The PCR master mix kit includes a pairs of positive control primers (CCR5) that are compatible with primate blood samples.

Features

- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- High throughput PCR
- Execute PCR directly from blood samples
- High reproducibility, less pipetting errors
- Compatible with most anticoagulants
- Suitable for multiplex PCR

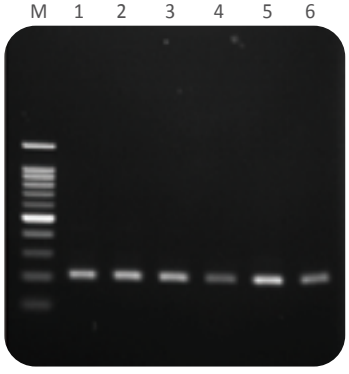


Fig. 1. The ExcelTaq™ 5X Blood Direct PCR Master Mix Kit amplified 200 bp from differently treated blood samples using CCR5 specific primers. M: DM2100 marker, Lane 1: fresh blood, Lane 2: blood + citrate, Lane 3: blood + EDTA, Lane 4: blood + EDTA/ NaF, Lane 5: blood + Heparin, Lane 6: 1mm^2 of dry blood on filter paper.

Contents

Component	Volume
ExcelTaq™ 5X Blood Direct PCR Master Mix	2 x 1ml
Positive Control Primers (10 µM, each)	25 µl

Storage

4°C	for 6 months
-20°C	for 24 months

ExcelTaq™ Hot Start II DNA Polymerase

TP5000 (5 U/µl, 500 U x 1)

Description

The ExcelTaq™ Hot Start II DNA Polymerase is a mixture of an aptamer-based inhibitor and a recombinant thermo-stable *Taq* DNA polymerase designed for preventing or minimizing non-specific DNA amplification in PCR reaction. The inactivation of polymerase is achieved by a reversible binding of the aptamer to the polymerase at temperatures below 45°C. The aptamer inhibitor releases polymerase during normal PCR cycling. The aptamer-based inhibition omits the time-consuming initial activation step required by chemically modified or antibody-based hot start polymerases.
The high specificity and sensitivity of ExcelTaq™ Hot Start II DNA Polymerase allows sensitive detection from limited amount of DNA templates, such as 1 pg of cDNA or 1 fg of plasmid DNA. With a high DNA synthesis rate and high thermo-stability, the ExcelTaq™ Hot Start II DNA Polymerase allows reactions to be set up at room temperature and is suitable for common and specialized PCR applications.

Features

- 5'→3' DNA polymerase activity
- 5'→3' exonuclease activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- Reversible enzyme inactivation
- Omits extra enzyme activation step
- Convenient for room temperature PCR set-up
- High yield and specificity of target amplicons
- Wide range of amplicon length (up to 10 kb)
- High sensitivity (as low as 1 fg of plasmid)

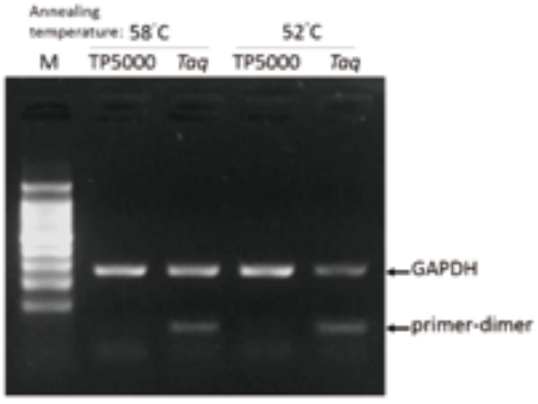


Fig. 1. ExcelTaq™ Hot Start II DNA Polymerase shows high specificity on amplifying target DNA. The optimal annealing temperature of GAPDH primer set is 58˚C. Improper annealing temperature set at 52˚C may force primer-dimer formation. ExcelTaq™ Hot Start II DNA Polymerase eliminated primer-dimer and increased amounts of desired product at improper annealing temperature of 52˚C.

Contents

Component	Volume
Hot Start II DNA Polymerase (5 U/µl)	100 µl
10X HS Buffer	2 x 1 ml

Storage

4°C	for 6 months
-20°C	for 24 months

Storage Buffer

50 mM Tris-HCl (pH 8.0), 50 mM KCl, 0.1 mM EDTA, 1 mM DTT, stabilizer, 50% (v/v) glycerol

10X HS Buffer

200 mM Tris-HCl (pH 8.8 at 25°C), 100 mM KCl, 100 mM $(NH4)_2SO_4$, 20 mM $MgCl_2$, 1% Triton X-100

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C.

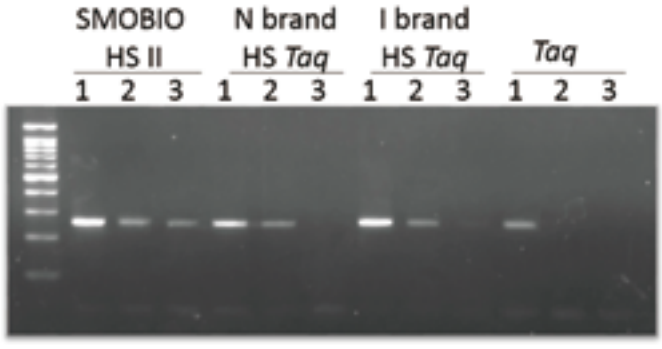


Fig. 2. ExcelTaq™ Hot Start II DNA Polymerase shows high sensitivity to amplify from low amount of templates. Each set of PCR reactions contained either 1 pg, 10 pg, or 1 ng of HeLa cell cDNA as templates. ExcelTaq™ Hot Start II DNA Polymerase successfully amplified targets from lower amount of templates, in comparison with hot-start DNA polymerases from other suppliers and general *Taq* DNA polymerase

ExcelTaq™ 2X Q-PCR Master Mix (SYBR)

TQ1100 (200 Rxn)(SYBR, no ROX) TQ1101(500 Rxn)(SYBR, no ROX)
TQ1110 (200 Rxn)(SYBR, ROX)

Description

The ExcelTaq™ 2X Q-PCR Master Mix (SYBR) is a ready-to-use reagent with all the essential components for quantitative real-time PCR (qPCR) except primers and template. The master mix features high sensitivity and signal intensity as well as low background and better compatibility with cDNA templates derived directly from reverse transcription reaction mixture. The ExcelTaq™ 2X Q-PCR Master Mix (SYBR) contains hot-start *Taq* polymerase in an optimized buffer with dsDNA specific SYBR green fluorescent dye. This master mix allows for sensitive, precise amplification, real-time tracking of the amplification process, and simultaneous quantification for targeted DNA molecules. With inert smart blue contrast dye, the ExcelTaq™ 2X Q-PCR Master Mix (SYBR) is ready-to-use and greatly reduces pipetting errors, while largely improving the reproducibility of the process. The TQ1110 ExcelTaq™ 2X Q-PCR Master Mix (SYBR, ROX) includes ROX reference dye if recommended by the manufacturer of the qPCR system.

Features

- High sensitivity
- High signal intensity
- Better compatibility for reverse transcription
- With smart blue contrast dye as a visual aid for reaction setup
- Low background
- With ROX reference dye (TQ1110)

Contents

TQ1100 Component	Volume
ExcelTaq™ 2X Q-PCR Master Mix (SYBR, no ROX)	2 x 1ml
TQ1101 Component	**Volume**
ExcelTaq™ 2X Q-PCR Master Mix (SYBR, no ROX)	5 x 1ml
TQ1110 Component	**Volume**
ExcelTaq™ 2X Q-PCR Master Mix (SYBR, ROX)	2 x 1ml

Storage

Aliquot to avoid multiple freeze-thaw cycles
Protect from light
-20°C for 12 months

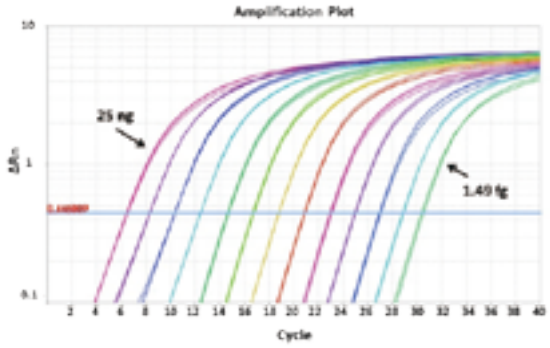


Fig. 2. The amplification plot of real-time PCR with cDNA templates ranging from 1.49 fg to 25 ng in quantity, analyzed by using TQ1110 ExcelTaq™ 2X Q-PCR Master Mix (SYBR, ROX) for qPCR amplification.

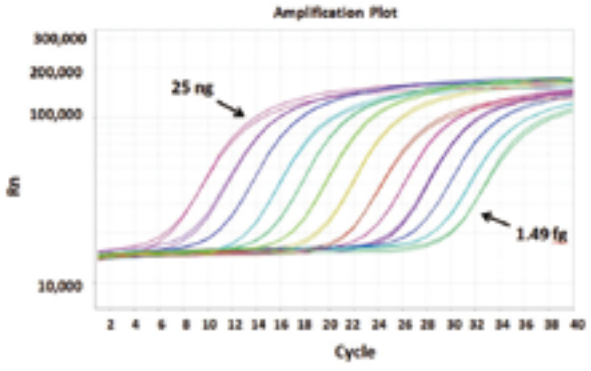


Fig. 1. The amplification plot of real-time PCR with cDNA templates ranging from 25 ng to 1.49 fg in quantity, analyzed by using TQ1100 ExcelTaq™ 2X Q-PCR Master Mix (SYBR, no ROX) for qPCR amplification.

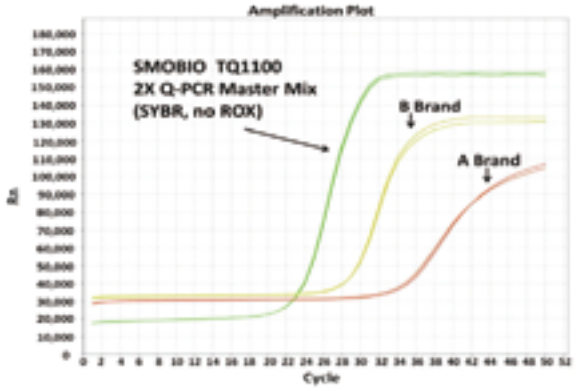


Fig. 3. SMOBIO's TQ1100 ExcelTaq™ 2X Q-PCR Master Mix (SYBR, no ROX) shows better compatibility with reverse-transcription reaction mixture as compared to similar products from A and B brands. Two µl of cDNA directly obtained from reverse-transcription reaction mixture were used in a 20 µl qPCR reaction for the compatibility test.

ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR)

TQ1200 (200 Rxn)(SYBR, no ROX) TQ1201(500 Rxn)(SYBR, no ROX)
TQ1210 (200 Rxn)(SYBR, ROX) TQ1211 (500 Rxn)(SYBR, ROX)

Description

The ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) is a ready-to-use reagent with all the essential components for quantitative real-time PCR (qPCR) except primers and templates. The master mix features high sensitivity and signal intensity as well as low background and better compatibility with fast PCR programs.
The ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) contains hot-start *Taq* polymerase in an optimized buffer with dsDNA specific SYBR green fluorescent dye. This master mix allows sensitive, precise amplification, real-time tracking of the amplification process, and simultaneous quantification for targeted DNA molecules.
With inert smart blue contrast dye, the ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR) is ready-to-use and greatly reduces pipetting errors, while largely improving the reproducibility of the process. The TQ1210 ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, ROX) includes ROX reference dye if recommended by the manufacturer of the qPCR system.

Features

- Fast hot start
- High stability
- High sensitivity and signal intensity
- Compatible with fast PCR program
- Smart blue contrast dye as a visual aid for reaction setup
- With ROX reference dye (TQ1210)

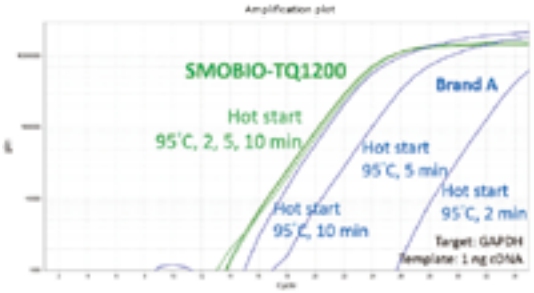


Fig. 1. The overlapped amplification curves from hot start duration of 2, 5, and 10 minutes display that TQ1200 ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, no ROX) preforms successfully in short duration of initial activation (2 min).

Contents

TQ1200 Component	Volume
ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, no ROX)	2 x 1ml
TQ1201 Component	**Volume**
ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, no ROX)	5 x 1ml
TQ1210 Component	**Volume**
ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, ROX)	2 x 1ml
TQ1211 Component	**Volume**
ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, ROX)	5 x 1ml

Storage

Aliquot to avoid multiple freeze-thaw cycles
Protect from light
-20°C for 12 months

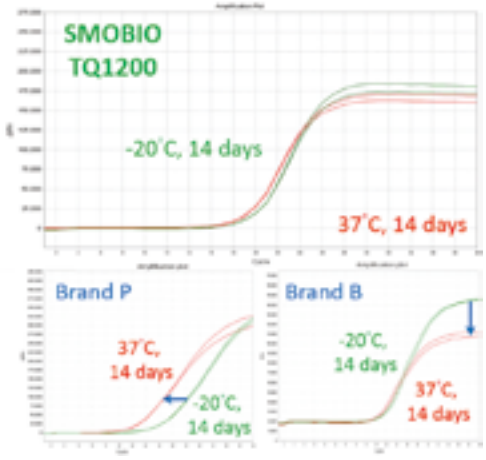


Fig. 2. SMOBIO's TQ1200 ExcelTaq™ 2X Fast Q-PCR Master Mix (SYBR, no ROX) shows higher stability as compared to a similar products (Brand P and B).

ExcelTaq Q-PCR Master Mix features blue dye to clearly recognize aliquoted reaction mixes in plates to minimize aliquoting errors.

ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX)

TQ2110 (200 Rxn)

Description

The ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) is a ready-to-use reagent with all the essential components for quantitative real-time PCR (qPCR) except primers, TaqMan probes and templates. The master mix includes a 5' to 3' exonuclease activity to cleave TaqMan probes that hybridize to target sequences, releasing fluorophore during probe displacement. With TaqMan probes, the master mix features high specificity and high sensitivity (Fig. 1).

The ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) contains hot-start *Taq* polymerase in an optimized buffer that allows for sensitive and precise amplification, real-time tracking of the amplification process, and simultaneous quantification for targeted DNA molecules. The master mix includes ROX reference dye for the normalization of each qPCR assay. The ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) is ready-to-use and greatly reduces pipetting errors, while largely improving the reproducibility in the process.

Features

- High sensitivity
- High specificity
- With ROX reference dye

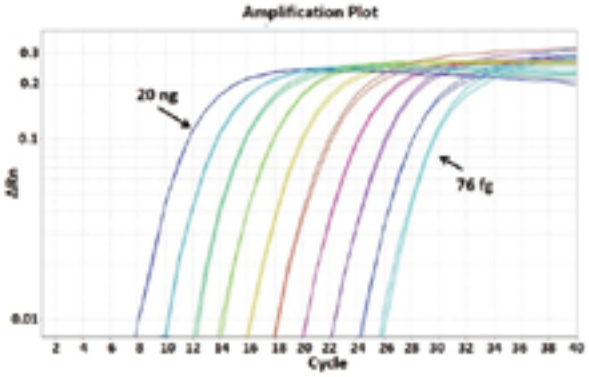


Fig. 1. The amplification plot of real-time PCR with cDNA templates ranging from 76 fg to 20 ng in quantity, analyzed by using TQ2110 ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) for qPCR amplification.

Contents

Component	Volume
ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX)	2 x 1ml

Storage

Aliquot to avoid multiple freeze-thaw cycles
Protect from light
-20°C for 12 months

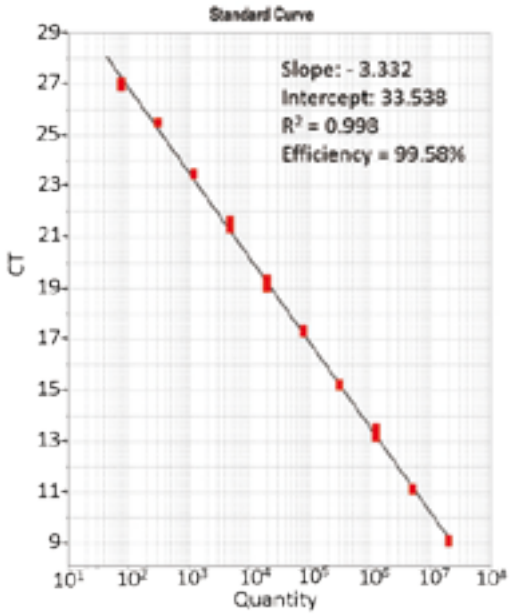


Fig. 2. The standard curve of TQ2110 ExcelTaq™ 2X Q-PCR Master Mix (TaqMan, ROX) was generated by using a 4-fold dilution of total cDNA ranging from 76 fg to 20 ng.