



ELK Biotechnology
For research use only.

EnTurbo™ SYBR Green PCR SuperMix(High ROX Premixed)

Catalog No.	Specification	EnTurbo™ SYBR Green PCR SuperMix(High ROX Premixed)	RNase-Free ddH ₂ O	Storage/Shelf life
EQ013	20μL×500 rxns	4 x 1.25mL	4 x 1.25mL	-20°C/one year

Advantage

- 1) Quickly get results, saving up to 50% of the time
- 2) Optimized ready-to-use master mix for rapid PCR reactions
- 3) Accurate detection of various starting amounts of templates, stable amplification, quantitative results with high repeatability
- 4) Balanced K⁺ and NH₄⁺ ion ratios, Ensure high sensitivity and high specificity.

Applicable Type

ABI5700, 7000, 7300, 7700, 7900HT FAST, StepOne, StepOne Plus etc.

Introduction

EnTurbo™ SYBR Green PCR SuperMix is an optimized 2x real-time PCR master mix containing HotStarTaq DNA Polymerase, SYBR Green® fluorescent dye, dNTP and Mg²⁺, High Rox. In addition, the balanced K⁺ and NH₄⁺ ion ratios in the buffer promote specific primer annealing. To ensure a highly sensitive and specific PCR reaction, the reaction can be initiated by simply adding the primer and cDNA template to the ready-to-use PCR master mix. Greatly simplify the operation process and reduce the probability of pollution. The unique PCR buffer ensures sensitive qPCR on all real-time PCR instruments without optimization.



ELK Biotechnology
For research use only.

Kit Components

Component	Character	Advantage
HotStarTaq DNA Polymerase	Activated at 95°C for 30 sec	Construction of qPCR reaction system at room temperature
SYBR Green qPCR Buffer	Suitable for all real-time PCR instruments	qPCR run time is reduced by 50%, results are obtained faster, and more PCR reactions can be completed in one day
SYBR Green I dye	Strong fluorescence signal when combined with DNA duplex	High sensitivity amplification. It provides a wide-area linear range with a Ct value of 5-35 and a high sensitivity for single-digit copy detection, and is suitable for melting curve analysis.

Kit principle

EnTurbo™ SYBR Green PCR SuperMix provides a wide range of specific, sensitive assays for standard and rapid PCR machines. The SYBR Green I dye in the master mix can analyze multiple target nucleic acids without the need to synthesize sequence-specific probes. The special fast PCR buffer can greatly shorten the denaturation, annealing and extension time, and has good applicability to complex templates, templates with more PCR inhibitor residues (such as soil and fecal DNA) and long fragment amplification.

Kit application

EnTurbo™ SYBR Green PCR SuperMix can be used for cDNA gene expression analysis, absolute quantification of plasmids, gDNA and sequencing libraries for a variety of real-time PCR instruments. It is suitable for various real-time PCR machines, including PCR machines from ABI, Bio-Rad, Eppendorf, Roche and Agilent.

Attention



ELK Biotechnology

For research use only.

1. Template

cDNA: For two-step quantitative qPCR, Use 10µL of cDNA reverse transcribed from total RNA (10pg to 1ng).

In the 20 µL reaction system, the amount of cDNA template used is generally not more than 100 ng. It should be noted that when detecting high-abundance genes in undiluted cDNA, the Ct value in quantitative PCR results may be too low, which may affect the accuracy of quantification. Gradient dilution of the cDNA template results in more accurate results.

Plasmid and genomic DNA: 100pg to 1ng of genomic DNA or $10\text{-}10^7$ copies of plasmid DNA can be used in a 20µL system.

2. Transportation and storage

1) Ice bag ,dry ice transport.

2) Store at -20°C in the dark. This product contains the fluorescent dye SYBR[®] Green I. When storing or formulating the reaction system, avoid strong light. Please mix it upside down before use.

3) For your safety and health, please wear a lab coat and wear disposable gloves when performing the experiment.

Reaction System



ELK Biotechnology

For research use only.

A reaction system as described below was established. To perform multiple reactions, prepare a premix of the common components, add a suitable volume to each tube or well, and then add a special reaction component (eg, template).

Composition	96 wells		384 wells	Final Concentration
	50 μ L reaction system	20 μ L reaction system	10 μ L reaction system	—
2 x SYBR Green PCR Master Mix	25 μ L	10 μ L	5 μ L	1 x
PCR Forward Primer (10 μ M)	1 μ L	0.4 μ L	0.2 μ L	0.2 μ M
PCR Reverse Primer (10 μ M)	1 μ L	0.4 μ L	0.2 μ L	0.2 μ M
Template				
RNase-Free ddH ₂ O	to 50 μ L	to 20 μ L	to 10 μ L	—

1. It is recommended to use a 20 μ L or 50 μ L system to ensure the validity and repeatability of the amplification of the gene of interest.
2. Cover or seal the reaction tube/PCR plate and mix gently. It can be centrifuged slightly to ensure that all components are at the bottom of the tube.
3. Place the reaction system in a real-time PCR instrument, collect data and analyze the results. Set up your PCR instrument as shown in the table below. Optimum temperature
The incubation time can be determined by the specific situation.

Two-step amplification procedure:



ELK Biotechnology

For research use only.

Stage	Number of cycles	Temperature	Time
Pre-denaturation	1x	95°C	30 sec
Denaturation	35-40x	95°C	5 sec
Annealing/extension		60°C	30 sec
Melting Curve stage			

Three-step amplification procedure:

Stage	Number of cycles	Temperature	Time
Pre-denaturation	1x	95°C	30 sec
Denaturation	35-40x	95°C	5 sec
Annealing		50-60°C	30 sec
extension		72°C	30 sec
Melting curve analysis(Melting Curve stage)			

Note: The annealing temperature and time can be adjusted according to the length of the primer and the gene of interest.

The pre-denaturation condition is usually set at 95°C for 30 sec. Using this condition, the circular plasmid DNA and genomic DNA template that are difficult to denature can basically be denatured well. If you want to change the denaturation conditions for difficult-to-denature templates, you can extend it to 1 to 2 minutes. However, the enzyme is prone to inactivation for too long, so denaturation conditions of more than 2 minutes are not recommended.

Result analysis



ELK Biotechnology
For research use only.

Quantitative experiments require at least three biological replicates. After the reaction is completed, it is necessary to confirm the amplification curve and the melting curve.