2x Es Taq Master Mix (with dyes)

Cat. #: W0690-1 (1 mL); W0690-5 (5 mL)

Storage: Ship at 4℃. Store at -20℃ for up to 1 year and avoid freeze-thaw cycles. Store at 4℃ for up to 3 months.

Product Components

Components	W0690-1	W0690-5
2x Es Taq Master Mix	1 mL	1 mL x 5
RNase-Free Water	1 mL	5 mL

Note: 2x Es Taq Master Mix contains Es Taq DNA Polymerase, 2 x Es Taq PCR buffer, 3 mM $MgCl_2$, and 400 µM dNTP mix.

Application

- Routine PCR
- T/A cloning

Product Description (This product is for research use only.)

This Master Mix contains Es Taq DNA Polymerase, PCR buffer, Mg2+, dNTP, PCR stabilizer and PCR enhancer. The concentration is 2x.

Es Taq DNA Polymerase possesses 5′→3′ DNA polymerase and 5′→3′ exonuclease activity. The polymerase has the **higher amplification efficiency and lower mismatching** than Taq DNA polymerase. Es Taq Polymerase catalyzes the non-template directed addition of an adenine residue to the 3′-end of both strands of DNA molecules to make it **suitable for T/A cloning**. The amplification range of Es Taq is ~ 6 kb.

This unique Master Mix recipe makes the system very reliable. More than 98% of PCR reaction can get successful amplification during the first try. It also works well on complicate templates.

The Master Mix contains dyes, and can directly run electrophoresis after PCR reaction.

Quality control:

This product is tested for no exogenous nuclease activity; no host DNA contamination tested (by PCR); able to amplify single copy gene from multiple genomes; and no significant enzyme activity decrease after storing at 2~8°C for 3 months.

Protocol

The following protocol serves as a general guideline for routine PCR amplification. Optimal reaction conditions (annealing temperature and time, extension time, concentration of primers and template DNA) vary and need to be optimized according to the template, primer structure and target fragment size.

1. Prepare the reaction mix to 50 µL according to the following table.

Reagent	50 µl PCR reaction	Final Concentration
10x Es *Taq* Master Mix	25 µl	1x
Forward Primer, 10 µM	2 µl	0.4 µM
Reverse Primer, 10 µM	2 µl	0.4 µM
Template DNA	<1 µg	<1 µg / reaction
RNase-Free Water	Up to 50 µl	-

Note: The recommended primer concentration for PCR is between 0.1-1.0 µM of each primer. The use of higher concentrations of primers can have higher amplification effect. Low primer concentration will generally ensure cleaner product and lower background.

2. PCR reaction conditions

Procedure	Temperature	Time	
Pre-denaturation	94℃	2 min	
Denaturation	94℃	30 s	25-35 cycles
Annealing	55-65℃	30 s	
Extension	72℃	30 s	
Final extension	72℃	2 min	

Note:

1) The recommended annealing temperature is about 5℃ below Tm of primers. If non-specific bands are observed, increase annealing temperature. The absence of amplification product indicates the need for a lower annealing temperature.

2) PCR extension time is depended on the size of target gene sequence. **Es *Taq* DNA polymerase is approximately 1 kb DNA / 30 seconds.**

3) The number of PCR cycles will basically depend on the downstream application of the PCR product.

3. PCR result examination

This Master Mix contains dyes for electrophoresis. After PCR, directly load 5 µL of PCR product to agarose gel to run electrophoresis. No need to add loading buffer.

-- The end --