2 x Taq Master Mix

Premixed solution for convenient PCR

Product Description

2 x Taq Master Mix is a premixed 2 x concentrated solution of Taq DNA Polymerase (Omega Bio-Tek, Cat. No. TQ2100), Reaction Buffer, MgCl2,dNTPs, stabilizer and enhancer. 2 x Taq Master Mix contains all components for PCR, except DNA template and primers. The mixture is optimized for consistent and efficient routine PCR amplifications. It can amplify up to 8 kb fragment from lambda DNA. For a 50 µl reaction, simply add 25 µl of 2 x Taq Master Mix to primers, DNA template and PCR-Qualified H2O. In addition, 2 x Taq Master Mix (with dye) can be used to directly load the PCR products onto an agarose gel without the need to add a gel loading buffer.

Storage Conditions

2 x Taq Master Mix should be stored immediately upon receipt at –20°C or 2-8°C. When stored under –20°C and handled correctly, these products can be stored for at least 12 months without showing any reduction in PCR performance. When stored under 2-8°C, 2 x Taq PCR Master Mix Kit can also be stored for up to 2 months.

Kit Components

Components	TQ2201 2 x Taq Master Mix (with Dye)	TQ2200 2 x Taq Master Mix (without dye)
Tris	20 mM	20 mM
KCl	100mM	100mM
DNTP	0.4mM	0.4mM
MgCl2	4mM	4mM
Taq	100-200U/ml	50-100U/ml
Dye	Brominecome blue	----
Additives	Secret	Secret

Basic PCR Protocol

This protocol serves as a guideline for PCR amplification. Optimal reaction conditions, such as incubation times, temperatures, and amount of template DNA, may vary and must be individually determined.

1. **Thaw primer solutions.** Keep on ice after complete thawing, and mix well before use.
2. **Mix the Taq Master Mix by vortexing briefly.** It is important to mix the Taq PCR Master Mix before use to avoid localized differences in salt concentration.
3. **Prepare one of the following reaction mixes on ice:**

- **For a 25 µl reaction volume:**

Component	Volume	Final Concentration
2X *Taq* Master Mix	12.5 µl	1X
Upstream Primer, 10 µM	0.5 µl	0.1–1.0 µM
Downstream Primer, 10 µM	0.5 µl	0.1–1.0 µM
DNA Template	1-5 µl	<500 ng
Nuclease-Free Water to		25 µl

- **For a 50 µl reaction volume:**

Component	Volume	Final Concentration
2X Taq Master Mix	25 µl	1X
Upstream Primer, 10 µM	1 µl	0.1–1.0 µM
Downstream Primer, 10 µM	1 µl	0.1–1.0 µM
DNA Template	1-5 µl	<500 ng
Nuclease-Free Water to		50 µl

4. Gently mix the reaction and spin down in microcentrifuge.
5. **Set up program for a routine PCR reactions:**

Initial Denaturation	94-95°C for 1-5 min
25-40 cycles	94-95°C for 30 sec
	45-70°C for 10-30 sec
	72°C for X min(1min/kb)
Final extension	72°C for 7 min
Final soak	4-10°C

6. For a simplified hot start, proceed as described in step 7. Otherwise, place the PCR tubes in the thermal cycler and start the cycling program.
7. **Simplified hot start:** Start the PCR program. Once the thermal cycler has reached 94°C, place the PCR tubes in the thermal cycler. In many cases, this simplified hot start improves the specificity of the PCR.