

Instructions for use

2x qPCR CybrGreen MasterMix (low ROX)

1 ml, 100 reactions

Optimized 2x PCR MasterMix for all qPCR assays, including ROX reference dye (low concentration)

1. Description

Our **2x qPCR CybrGreen Master Mix** is an optimized ready-to-use mixture for all qPCR applications. It contains a modified fast HotStart Taq DNA Polymerase, dNTPs and MgCl₂ and the fluorescent dye SYBR® Green combined in an optimized buffer system for Real-Time PCR / qPCR applications. You only need to add primers and template DNA. The MasterMix can be used not only for expression analysis but also for genotyping, copy-number analyses and all sorts of quantitative PCRs. **The 2x qPCR CybrGreen MasterMix** contains ROX reference dye at a concentration of 100 nM and in its final concentration 50 nM.

For research use only. Not approved for use in clinical or *in vitro* diagnostics.

2. Applications

2x qPCR CybrGreen MasterMix is recommended for use in all qPCR applications. The optimized buffer system provides fast kinetics and highly efficient target amplification with low DNA template amounts and even for difficult templates. The **2x qPCR CybrGreen MasterMix** contains all components, you just need to add primers and template DNA / cDNA. The **2x qPCR CybrGreen MasterMix** is not only suitable for expression analysis, but also for genotyping, copy-number analysis and all sorts of quantitative PCR assays. Using our **2x qPCR CybrGreen MasterMix** not only reduces contamination risks, but is also time saving, highly reproducible and very easy to prepare.

3. Set contents

2x qPCR CybrGreen MasterMix in **2x reaction buffer** containing the modified HotStart Taq polymerase, 0.4 mM each dNTP and an optimized buffer system containing MgCl₂, 100 nM ROX and SYBR® Green.

Reagent	Amount	Lid colour
2x qPCR CybrGreen MasterMix (100 reactions)	1 tube, 1 ml	brown

Note: The **2x CybrGreen qPCR MasterMix** is also available without or with high concentrations of ROX.

4. Protocol

Before you start: Thaw the tube and invert the MasterMix 5-6 times to ensure mixing of the solution. Do not vortex! After thawing spin the tube briefly!

Note: Reactions can be conveniently set up at room temperature.

Recommended reaction mixture per well:

Components	Apply for 20 µl reaction	Apply for 10 µl reaction	Final concentration
2x qPCR CybrGreen MM	10 µl	5 µl	1x
Forward primer	variable (e.g. 2 µl)	variable (e.g. 1 µl)	0.1 – 0.4 µM
Reverse primer	variable (e.g. 2 µl)	variable (e.g. 1 µl)	0.1 – 0.4 µM
Template DNA	variable	variable	1 pg – 10 ng/reaction
Sterile dest. water	adjust to 20 µl	adjust to 10 µl	

- **3-Step PCR protocol**

Step	Time	Temperature
Initial denaturation	2 minutes	92-95 °C
30 - 45 cycles		
Denaturation	5 seconds	92-95 °C
Annealing	5 seconds	60 °C (depends on primers)
Extension	5 – 20 seconds	72 °C

- **2-Step PCR protocol**

Step	Time	Temperature
Initial denaturation	2 minutes	92 - 95 °C
30 – 45 cycles		
Denaturation	5 seconds	92 - 95 °C
Annealing/Extension combined	5- 30 seconds	60 °C (depends on primers)

Note: For maximum efficiency and specificity, annealing temperatures, as well as extension time, primer concentration and template DNA concentration may need to be optimized.

5. Storage conditions

Long-term storage: at -20°C (stable for about 24 months).

Short-term storage: at 4°C (stable for about 3 months).

However, short term storage for a few hours or up to 3 days at room temperature will not affect the performance of the MasterMix.

Product is not covered by pending or issued patents or may have certain limitations. To our best knowledge, this product does not provide any conflict with pending or issued patents.