



The ENZYME Company

DFS-Blue- Master Mix (2x)

Description 2x Blue Master Mix is an optimized ready-to-use PCR mixture of DFS-*Taq* DNA Polymerase, PCR buffer, MgCl₂ and dNTPs. The mixture contains bromphenole blue to provide visual control of the reaction mixture preparation. 2x PCR Master Mix contains all components for PCR, except DNA template and primers. The mixture contains DFS-*Taq* DNA polymerase – *Taq* DNA polymerase without traces of *E. coli* DNA, but with the increased ability to detect low-copy number genes (Bioron GmbH, cat# 101005, 101025, 101100, 101500). Due to the usage of DFS-*Taq* DNA polymerase the mixture can be recommended not only for all regular applications, but also **for templates which contains *E. coli* DNA sequences.**

2x Blue Master Mix Composition

- *Taq* DNA Polymerase (recombinant) in reaction buffer: 0.1 units/μl
- 32 mM (NH₄)₂SO₄
- 130mM TrisHCl, pH 8.8 at 25°C
- 0,02% Tween-20
- Bromphenole Blue 0,001%
- 5,5mM MgCl₂
- dNTPs (dATP, dCTP, dGTP, dTTP): 0.4mM of each

Performance and purity tests Tested for the absence of endodeoxyribonucleases and exodeoxyribonucleases. Performance is tested on single-copy genes of human and mouse DNA.

Endodeoxyribonuclease Assay No detectable conversion of covalently closed circular DNA to nicked DNA was observed after incubation of 25μl of 2x PCR Master Mix with 1μg of pUC19 DNA in 50μl for 4 hours neither at 37°C nor at 70°C

Storage MasterMix should be stored at -20°C. Repeated (up to 10 times) freezing – defreezing do not cause the reduction in PCR performance, storage at +4 °C for 1 week do not cause the reduction in PCR performance.

Protocol: It's strongly recommended to settle-up all reactions in ice to avoid formation of unspecific products or primer-dimers formation.

Add in a thin walled PCR tube:

component	50 μl reaction volume		25 μl reaction volume	
	volume	final conc.	volume	final conc.
2x Blue Master Mix	25 μl	1x	12.5 μl	1x
MgCl ₂	variable	variable	variable	variable
Forward Primer	variable	0.1-1 μl	variable	0.1-1 μl
Reverse Primer	variable	0.1-1 μl	variable	0.1-1 μl
Template DNA	variable	10 pg-1μg	variable	10 pg-1 μg
Sterile Deionized Water	up to 50 μl	-	up to 25 μl	-

- Gently vortex the sample and briefly centrifuge to collect all drops to the bottom of the tube.
- Overlay the sample with mineral oil or add an appropriate amount of wax if the thermal cycler is not equipped with a heated lid.
- Place the samples in a thermocycler and start the optimal PCR program.

If MgCl₂ is not added to the reaction mixture, final concentration of MgCl₂ in the reaction mixture will be 2,75mM. Addition of 1 μl of 100 mM MgCl₂ into the mixture results in concentration of MgCl₂ 4,75mM in the reaction mixture for 50 μl reaction volume.

Catalog #	Pack size
101705	100 rcs (2x1,25ml)
101725	5 x 100 rcs (10x1,25ml)

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