

Data sheet

This data sheet provided for information only

5X MasTaq^{OR}-2025

RESEARCH USE ONLY

“Ready-to-load” MasterMix for DNA amplification

Cat.No.	Pack	Conc.
MOR5-100	100 rnx	5 X
MOR5-500	500 rnx	5 X

Stability:

5X MasTaq^{OR} stable for 24 months at -20°C, **or** for 6 months at +4°C storage without freezing.

CONTENT:

1X: SmarTaq Polymerase
0.2mM each of dNTP's
2.0 mM MgCl₂
 16,6mM (NH₄)₂SO₄; 67,0mM This-HCL (pH 8.8 at 25°C); 0.01% Tween-20
 Stabilizer/enhancer
 Orange dye
 (During electrophoresis migrate near 50bp DNA fragments)

DESCRIPTION

5X MasTaq^{OR} is a ready-to-use/load premix of all components for amplification of target DNA, contains **stabilizer/ enhancer**, which improves thermostabilization of enzyme during PCR amplification and storage, and two inherent dyes, which allows direct loading of the sample into gel for electrophoresis.

5X MasTaq^{OR} contains antibodies- blocked Taq polymerase (**SmarTaq**), which is not active at ambient temperature (during PCR set-up) and activated automatically during the first PCR cycle at the temperature >70°C.

It's no need for prolonge heating for activation of enzyme for PCR.

5X MasTaq^{OR} is optimized for PCR with **complex, low-copy number DNA templates, multiplex PCR**, and allows improving specificity of your PCR.

5X MasTaq^{OR} contains optimal MgCl₂ concentration (2.0mM).

You can use an appropriate volume of **5X MasTaq^{OR}** for amplification reaction, depending on total final reaction volume.

Just place it into the tube/plate adds primers and template of choice mix all components and run PCR.

After PCR reaction running load 5-10µl of reaction mixture directly onto the gel without any other manipulations (addition of “Loading Buffer”) and run electrophoresis.

Recommended PCR assay

50µl PCR assay		Final Conc.
10µl	5X MasTaq^{OR}-2025	1X
0.2-1µM	each Primer	
Variable*	DNA Template	
To 50µl	PCR Grade Water	

*- depending on DNA template initial concentration
 For 25µl PCR reaction reduce reaction components proportionally

APPLICATIONS:

- Routine PCR
- Primer extension
- Low-copy PCR (SmarTaq Polymerase)

STORAGE CONDITIONS :

Store **5X MasTaq^{OR}** at -20°C (for long term storage).

SHIPPING CONDITIONS:

Should be shipped at ambient temperature
 For land distance shipments preferably in **Blue Ice**

General Protocol for amplification with 5X MasTaq^{OR}-2025

Add and mix the following components:

Component	50 μ L reaction	25 μ L reaction	Final concentration
PCR grade Water	Up to 50 μ L	Up to 25 μ L	
5X MasTaq^{OR}-2025	10 μ L	5 μ L	1X
Primers			0.2-0.5 μ M each
Template DNA	optionally	optionally	

In some cases we recommends to ortimize Mg concentration in the range 2.0-3.0mM
We recommend to use 25 μ l reaction for the PCR with **5X MasTaq^{OR}-2025**

Cycle step	Cycling Protocol: 3-step amplification		Cycles
	T ^o C	Time	
Initial	95 ^o C	2 min	1
Denaturation			
Denaturation	95 ^o C	15-30 S	
Annealing	55-68*	15-30 S	25-35
Extension	72 ^o C	30-60 S/Kb**	
Final extension	72 ^o C	5-10 min	1
	4 ^o C	hold	

*Optimal T_m for the primer pair recommended as T_m of the lower primer, for the standard oligos <20nt.

**For non-complex DNA templates (plasmid DNA, phage DNA, BAC clone) extention time could be reduced up to 15-30 sec/Kb.

For compex DNA templates (human DNA) strongly recommended to apply Extention time as 60 sec/Kb