

**Data sheet**

This data sheet provided for information only

**2X MasTaq<sup>CF</sup>-2025****RESEARCH USE ONLY****Ready-to-use amplification MasterMix**

<b>Cat.No.</b>	<b>Pack</b>	<b>Conc.</b>	<b>DESCRIPTION</b>
<b>MMCF-100</b>	<b>100 rnx</b>	<b>2 X</b>	<p><b>2X MasTaqCF</b> is a ready-to-use premix of all components for amplification of target DNA, contains <b>stabilizer/enhancer</b>, which improves thermostabilization of enzyme during PCR amplification and storage.</p> <p><b>2X MasTaqCF</b> contains antibodies- blocked Taq polymerase (<b>SmarTaq</b>), which is not active at ambient temperature (during PCR set-up) and activated automatically during the first PCR cycle at the temperature &gt;70°C.</p> <p>It's no need for prolonge heating for activation of enzyme for PCR.</p> <p><b>2X MasTaqCF</b> is optimized for PCR with complex, <b>low-copy number DNA templates, multiplex PCR, "real-time" PCR</b> allows to improve specificity of your PCR by titration of MgCl<sub>2</sub> ( not included ) concentration. One' can use an appropriate volume of <b>2X MasTaqCF</b> for amplification reaction, depending on total final reaction volume.</p> <p>Just place it into the tube/plate adds primers and template of choice mix all components and run PCR.</p> <p><b>After PCR reaction running mix 5-10µl of reaction mixture with appropriate volume of "Loading Buffer" (for non-"real-time" mode PCR), apply to the gel and run electrophoresis.</b></p>
<b>MMCF-500</b>	<b>500 rnx</b>	<b>2 X</b>	

**Stability:**

**2X MasTaq<sup>CF</sup>** stable for 24 months at -20°C, **or** for 12 months at +4°C storage without freezing.

**CONTENT:**

**1X: SmarTaq** Polymerase  
**0.2mM** each of dNTP's  
**2.0 mM** MgCL<sub>2</sub>  
 Reaction Buffer Components  
**Stabilizer/enhancer**

**Recommended PCR assay**

<b>50µl PCR assay</b>	<b>Final Conc.</b>
25µl <b>2X MasTaq<sup>CF</sup>-2025</b>	1X
0.2-1µM each Primer	
Variable* DNA Template	
To 50µl PCR Grade Water	

\*- depending on DNA template initial concentration

**APPLICATIONS:**

- Routine PCR
- Primer extension
- Real-Time PCR ( all types)
- Low-copy PCR (SmarTaq Polymerase)
- Multiplex PCR

**STORAGE CONDITIONS :**Store **2X MasTaqCF** at -20°C (for long term storage).**SHIPPING CONDITIONS:**

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

## General Protocol for amplification with 2X MasTaq<sup>CF</sup>-2025

### Add and mix the following components:

Component	50 $\mu$ L reactions	25 $\mu$ L reactions	Final concentration
PCR grade Water	Up to 50 $\mu$ L	Up to 25 $\mu$ L	
<b>2X MasTaq<sup>CF</sup>-2025</b>	25 $\mu$ L	12.5 $\mu$ L	1X
Primers			0.3-0.5 $\mu$ M each
Template DNA	optionally	optionally	10-50ng

In some cases we recommends to ortimize Mg concentration in the range 2.0-3.0mM  
We recommend to use 25 $\mu$ l reaction for the PCR with **2X MasTaq<sup>CF</sup>**

### Cycling Protocol:

Cycle step	3-step amplification		Cycles
	T $^{\circ}$ C	Time	
<b>Initial Denaturation</b>	<b>95<math>^{\circ}</math>C</b>	<b>1-2 min</b>	<b>1</b>
<b>Denaturation</b>	<b>95<math>^{\circ}</math>C</b>	<b>10-30 S</b>	
<b>Annealing</b>	<b>55-72*</b>	<b>10-30 S</b>	<b>25-35</b>
<b>Extension</b>	<b>72<math>^{\circ}</math>C</b>	<b>30-60 Sec/Kb**</b>	
<b>Final extension</b>	<b>72<math>^{\circ}</math>C</b>	<b>1-2 min</b>	<b>1</b>
	<b>4<math>^{\circ}</math>C</b>	<b>hold</b>	

\*Optimal T<sub>m</sub> for the primer pair recommended as T<sub>m</sub> 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 30 sec/Kb.

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