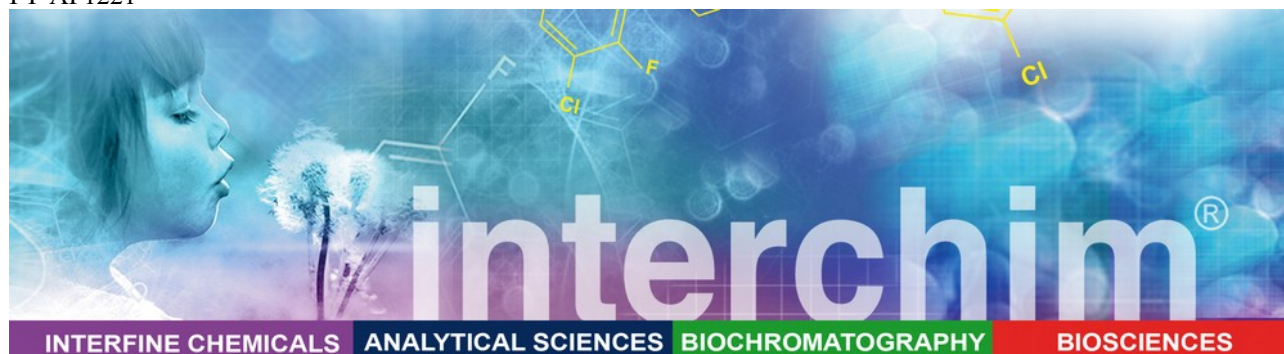


FT-AP1221



## 2x PCR Master Mixes

### Product Information

Product name cat.number	Volume (ml)
<b>2x PCR Master Mix</b> CJ5350, 100 rxns CJ5351, 500 rxns	2 x 1.25 10 x 1.25
<b>2x Red PCR Master Mix</b> AP1220, 100 rxns AP1221, 500 rxns	2 x 1.25 10 x 1.25
<b>2x Green PCR Master Mix</b> GPCR1, 100 rxns GPCR2, 500 rxns	2 x 1.25 10 x 1.25
<b>2x Hot Start PCR Master Mix</b> CJ5360, 100 rxns CJ5361, 500 rxns	2 x 1.25 10 x 1.25
<b>2x Red Hot Start PCR Master Mix</b> CJ5370, 100 rxns CJ5371, 500 rxns	2 x 1.25 10 x 1.25
<b>2x Green Hot Start PCR Master Mix</b> OO6110, 100 rxns OO6111, 500 rxns	2 x 1.25 10 x 1.25

Storage conditions:

Store at  $-20^{\circ}\text{C}$  (for 12 months).<sup>(J,M)</sup>

Multiple freeze-thaw cycles should be avoided by preparing aliquots.

### Introduction

The 2x PCR Master Mix contains all reagents required for PCR and is designed to make PCR as easy and simple as possible. All components (inclusive Taq DNA-Polymerase respectively Hot Start DNA Polymerase) are provided in an optimized concentration in the 2x PCR-Master solution. With 2x PCR Master Mix all you need to do is to add primers and template DNA, thus minimizing the pipetting effort and possible sources of error. This kit is suitable for PCR amplification of DNA-fragments up to 4 kb long, in most cases even longer targets can be successfully amplified.

Red PCR Master Mix and Red Hot Start PCR Master Mix contain an inert red dye which allows on line monitoring of the electrophoresis. The dye has no adverse effect on PCR.

Green PCR Master Mix and Green Hot Start PCR Master Mix contain two dyes (blue and yellow) that separate during electrophoresis to monitor migration progress. Reactions assembled with Green PCR Master Mix have sufficient density for direct loading onto agarose gels. Green Master Mix is recommended for any amplification reaction that will be visualized by agarose gel electrophoresis and ethidium bromide staining. The dyes absorb between 225–300nm, making standard A260 readings to determine DNA concentration unreliable.

## Directions for use

### Guidelines for use

Combine the following components in a PCR-reaction tube and adjust to a final volume of 50  $\mu$ l with H<sub>2</sub>O:

Component	Volume ( $\mu$ l)	Final concentration
2X PCR Master Mix	25	1 x (1.5 mM MgCl <sub>2</sub> )
Primer A	Variable	0.2 – 1 $\mu$ M
Primer B	Variable	0.2 – 1 $\mu$ M
Template DNA	Variable	1 – 150 ng
H <sub>2</sub> O	Variable	
Final volume	50	

Mix gently and place in thermal cycler. No vortexing, no centrifugation. Optimal conditions for concentration of primer, template and temperature profile need to be determined for each reaction.

### Quality control assays

Physical assays	Specification	Functional assay	Specification
Endonuclease Assay	No activity	4kb PCR	Suitable
DNase Assay	No activity		
RNase Assay	No activity		

### Troubleshooting

<b>Non specific products (smearing)</b>	concentration of enzyme, primer and/or dNTPs was too high <ul style="list-style-type: none"> <li>- annealing temperature for primers</li> <li>- too many cycles</li> <li>- annealing and extension time too long</li> <li>- too much template DNA</li> </ul>
<b>Low yield of product</b>	not enough or too much enzyme <ul style="list-style-type: none"> <li>- denaturation/extension temperature too high</li> <li>- incorrect annealing temperature</li> <li>- too few cycles</li> <li>- poorly designed primers</li> <li>- inhibitors from DNA purifications (i.e. SDS)</li> </ul>
<b>No product</b>	incorrect annealing temperature <ul style="list-style-type: none"> <li>- incomplete denaturation</li> <li>- poorly designed primers</li> <li>- use of destroyed components due to wrong storage</li> </ul>

### Related products

- 2x Probe qPCR Master Mix, #B42C20      Universal RealTime PCR #AP1600/B/F & Rox reference
- UptiTherm DNA polymerase, #UPS53921

### Ordering information

Catalog size quantities and prices may be found at <http://www.interchim.com>

For any information, please ask : Uptima / Interchim; Hotline : +33(0)4 70 03 73 06

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