



Data Sheet (26.08.2010)

# mi-Red Load Hot Taq Mix

## 5x Hot start PCR Master Mix for direct gel loading

Ready-to-use mix for PCR

Cat.-No.	Amount	Size
mi-E7003S	100 rx	1 ml
mi-E7003L	500 rx	5 ml

For research purposes only!  
Only for *in vitro* use!

### 5x Red Load Hot Taq Mix (red cap)

- Hot Taq Polymerase: 0.05 u/ µl
- dNTPs (dATP, dCTP, dGTP, dTTP) (200 µM)
- reaction buffer with KCl and MgCl<sub>2</sub> (2 mM)
- red dye, gel loading buffer, stabilizers

### PCR-grade water (white cap)

### Description

mi-Red Load Hot *Taq* Mix contains an inherent red dye and allows the direct loading of the PCR product onto the gel. It contains all reagents required for PCR (except template and primers) in a premixed 5x concentrated ready-to-use solution.

The master mix provides improved specificity and sensitivity when amplifying low-copy-number targets in complex backgrounds. The polymerase activity is blocked at ambient temperature and switched on automatically at the onset of the initial denaturation – no prolonged inactivation necessary. The thermal activation prevents the extension of nonspecifically annealed primers and primer-dimers formed at low temperatures during PCR setup.

The enzyme catalyzes the polymerization of nucleotides into duplex DNA in 5'→3' direction in the presence of magnesium. It also possesses a 5'→3' polymerization-dependent exonuclease replacement activity but lacks a 3'→5' exonuclease activity.

### Recommended PCR assay

50 µl PCR assay		
10 µl	5x Red Load Hot Taq Mix	red cap
0.2-1 µM	each Primer	
2-50 ng	Template DNA	
Fill up to 50 µl	PCR grade H <sub>2</sub> O	white cap

### Recommended cycling conditions

Initial denaturation	94 °C	2 min	1x
Denaturation	94 °C	30 sec	30x
Annealing <sup>1)</sup>	45-68 °C	30 sec	
Elongation <sup>2)</sup>	72 °C	30 sec - 3 min	
Final elongation	72 °C	2 min	2 min

<sup>1)</sup> The annealing temperature depends on the melting temperature of the primers used.

<sup>2)</sup> The elongation time depends on the length of the fragments to be amplified. A time of 1 min/ kbp is recommended.

For optimal specificity and amplification an individual optimization of the recommended parameters may be necessary for each new primer-template combination.

### Storage

Store at -20 °C, avoid frequent thawing and freezing  
Storage at 4 °C for up to 3 months possible