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## NORTH AMERICA

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# Eurogentec

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## Red'y'Star Mix PK-0073-02R • PK-0073-02RSA

Eurogentec products are sold for research or laboratory use only and are not to be administrated to humans or used for medical diagnostics.

### Description

The ready to use 2x Red'y'Star Mix contains HotGoldStar *Taq* DNA polymerase, dNTPs, MgCl<sub>2</sub> and buffer. To prepare amplification, only add your primers, template DNA and water to the Mix. The 2x Red'y'Star Mix also contains a red dye buffer to enable immediate loading on agarose or polyacrylamide gels following the DNA amplification.

Without activation, HotGoldStar *Taq* DNA polymerase completely lacks any activity below 74°C ("HotStart" activity avoids non specific priming at low temperature.)

### Package contents

Reagent	Volume	Description
Red'y'Star Mix PK-0073-02R PK-0073-02RSA	5 x 1 ml 1 ml	2 X PCR Mix: HotGoldstar, dNTPs, MgCl <sub>2</sub> , buffer, red loading dye
MgCl <sub>2</sub> 25 mM	1 ml	Additional 25 mM MgCl <sub>2</sub> for optimization if needed (see table behind)

### Shipping conditions

Shipped on dry ice.

### Storage conditions and stability

Red'y'Star Mix can be stored at -20 °C (in a constant temperature freezer) for 24 months or at 4 °C for 3 months. Do not repeat more than 10 freeze/thaw cycles.

### Quality control

Each lot is tested for activity by PCR. Using λ DNA as template we guarantee an amplification of at least 10<sup>5</sup> fold.

### Unit Definition

One unit of enzyme is defined as the amount required for incorporation of 10 nmoles of dNTPs into acid - insoluble material after 30 minutes amplification at 72 °C under the standard reaction conditions.

### Reaction conditions

25 µl of the 2x Red'y'Star Mix diluted to a final volume of 50 µl will give a reaction medium that contains 1 units of HotGoldStar DNA polymerase, 200 µM dNTPs, 1.5 mM MgCl<sub>2</sub>, 50 mM KCl, 15 mM Tris-HCl (pH 8.0 at 25 °C), 0.01% (v/v) stabilizer and red dye loading buffer.

### Procedure

1. Thaw vial, mix and place on ice.
2. To 25 µl of Red'y'Star Mix, add 0.1 nmol of primers, <1µg of template DNA and H<sub>2</sub>O to bring the total reaction volume to 50 µl.

### Standard cycling conditions

HotGoldStar Activation: 10 min at 95°C

35 cycles:

*Denaturation* 20 sec at 94°C

*Annealing* 20 sec at 62°C

*suggested Elongation* 30 sec at 72°C

*No amplification will be observed without the 10 minutes activation step at 95 °C*

Time and temperature for denaturation and annealing steps depend on the type of machine and primers. We advise that you check primer design using primer design software.

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## MgCl<sub>2</sub> optimization

MgCl <sub>2</sub> final concentration	2x PCR Mix	MgCl <sub>2</sub> (25 mM)	Primers, template, H <sub>2</sub> O
1.5 mM	25 µl	0 µl	25 µl
2.0 mM	25 µl	1 µl	24 µl
2.5 mM	25 µl	2 µl	23 µl
3.0 mM	25 µl	3 µl	22 µl
3.5 mM	25 µl	4 µl	21 µl
4.0 mM	25 µl	5 µl	20 µl
4.5 mM	25 µl	6 µl	19 µl
5.0 mM	25 µl	7 µl	18 µl

## Related products

Reagent	Pack size	Reference
dNTP Mix 20 mM total	1 x 20 µmol 5 x 20 µmol	NU-0010-10 NU-0010-50
dNTP Set 100 mM total	4 x 25 µmol	NU-0020-50
HotGoldStar Mix	5 x 1 ml	PK-0073-02
SmartLadder DNA ladder	1000 lanes	MW-1700-10
Molecular Biology Grade Agarose	500 g 1000 g	EP-0010-05 EP-0010-10
Mupid®-One electrophoresis system	1	MU-0041

## For further information please contact our Customer Help Desk:

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