MegaMix Ruby 2X Hot-Start Red Mastermix

P. Code	Reactions (20 µL)	Volume	Component	Description	Lot Number	Expiry
2MMRU-1	100	1 mL	MegaMix Ruby 2X Hot-Start Red Mastermix	2X Concentrated, Hot start Taq, 200 µM dNTPs, 3 mM $MgCl_2$ (final conc) and red loading dye in optimised buffer.		

Applications

- Hot Start PCR up to 6 kb
- Endpoint PCR
- qPCR (probe or dye based)
- Fast PCR
- Multiplex PCR
- Genotyping
- Amplification of GC and AT rich templates
- TA Cloning

Product Description

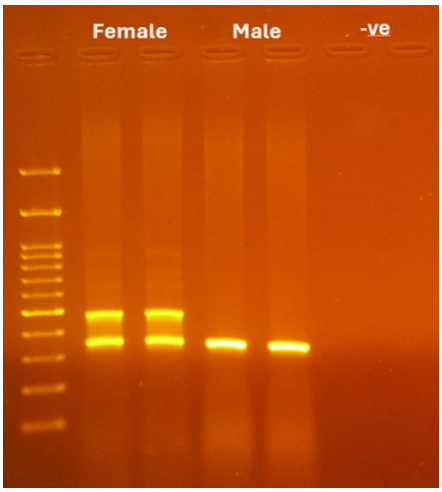
MegaMix Ruby is an advanced molecular biology reagent tailored for efficient PCR amplification. It is specifically designed to excel in multiplex PCR applications while offering exceptional resistance to common PCR inhibitors. It's innovative formulation simplifies PCR workflows and ensures reliable results across a broad range of PCR applications.

The 2X mix contains Hot Start Taq DNA polymerase, 200 µM dNTP, 3 mM $MgCl_2$ (final conc) and an inert red loading dye in Microzone's proprietary enhancing buffer. MegaMix Ruby uses a superior sensitive hot start DNA polymerase. The polymerase becomes active upon heating at 95°C, ensuring a highly specific and sensitive amplification, removing background and primer dimer formation. MegaMix Ruby boasts excellent accuracy and produces A-tailed products suitable for ligating into TA cloning vectors.

The red agarose loading dye incorporated allows easy visualisation and eliminates the need for additional gel loading buffers. The dye does not inhibit restriction enzymes or ligases and does not fluoresce at the wavelengths used by automated DNA sequencers so downstream processes are not impacted. In a 1% gel it migrates at around the same speed as 500 bp fragment.

Key Features

- Direct gel loading.
- Hot Start polymerase in Microzone's proprietary buffer gives unrivalled confidence in PCR amplifications.
- Inhibitor resistant formulation.
- 2X concentrated format.
- Broad range of templates and conditions.
- Extremely stable—can be freeze thawed many times.
- Easy set up and PCR optimisation.



MegaMix Ruby easily amplifies multiplex PCR reactions, shown here is amplification of the *Chd1* gene used to determine avian sex, using the P0/P2/P8 primer set, published by Han *et al.* (2009). The presence of 1 band and 2 bands indicates the sample was from a male and female bird respectively. ABI Veriti.

Protocol

This products is to be used as follows.

Thaw all reagents completely and mix well before use.

Prepare a master mix as described in the table below. This reaction can be scaled according to the quantity of reactions required.

Mix gently, avoiding bubbles, centrifuge if necessary.

Include a no template control and positive control as required.

Components	Volume
MegaMix Ruby 2X Hot-Start Red Mastermix	10 µL
Primers	x µL
Template	y µL
Just Water (Molecular grade water)	z µL (up to 20 µL)

Thermocycling

Transfer the reactions to the thermal cycler and set as follows:

Cycles	Temperature	Time
1	95°C	5 min
25-40	95°C	15 sec
	55-65°C	15 sec
	72°C	15 sec

Annealing temperature (55-65°C) may require optimisation depending on the specific primers in use.

The run time can be shortened by optimising the steps of the thermocycling profile. The extension time is to be increased depending on amplicon length, use 15 sec/kb.

The PCR product can be loaded directly on to a gel.

For research use only

Product Handling

Storage

To ensure the quality of the product until the expiry date keep at the recommended storage temperature and limit exposure to light.

Contamination Control

To prevent erroneous results ensure work environment is free of contamination by cleaning your workstation and equipment with a DNA decontaminant daily, wear gloves, use sterile tubes and filter pipette tips.

Simple | Effective | Efficient

Version 2.01

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