FOR RESEARCH USE ONLY!

ExpressTaq™ 2X PCR MasterMix

12/20

(Catalog # M1508-800; 800 Rxns; Store at -20 °C)

I. Introduction:

Biovision's ExpressTaq™ 2X PCR MasterMix is a ready-to-use MasterMix, which contains ExpressTaq™ DNA Polymerase in a uniquely-formulated buffer with a gel loading dye. This strategically engineered, next generation Taq Polymerase provides **rapid extension rates and robust performance**. With specialized reaction conditions, this polymerase provides increased processivity, yields and sensitivity, while shortening reaction times by up to 70%, compared to wild-type Taq DNA polymerase. ExpressTaq™ has 5′-3′ polymerase and 5′-3′ exonuclease activities, lacks 3′-5′ exonuclease activity and produces 3′-dA-tailed amplicons. PCR products made with ExpressTaq™ can be used with TA cloning vectors.

II. Key Features:

- Decrease reaction times by 70%
- Specialized buffer for higher yields, sensitivity and specificity compared to wild-type Taq polymerase
- Rapid extension rates
- Superior Performance

III. Applications:

- TA cloning

IV. Contents:

Components	M1508-800 (800 Rxns)	Part Number
ExpressTaq™ 2X PCR MasterMix*	10 ml	M1508-800-1

*Buffer contains 1.5 mM Mg^{2+}

V. User Supplied Reagents and Equipment:

- Pipettes, Pipette tips
- PCR tubes
- Nuclease free water
- Primers (forward and reverse)
- DNA Template
- Agarose
- Ethidium Bromide
- Thermal Cycler

VI. Shipping and Storage Conditions:

The MasterMix is shipped in a gel pack. All the components of the kit should be stored at -20 °C.

VII. Protocol:

1. Mix the individual components before use and **assemble the reaction** on ice.

Component	Volume
2X ExpressTaq™ 2X PCR MasterMix	12.5 µl
Forward Primer (10 µM)	1 µl
Reverse Primer (10 µM)	1 µl
Template DNA	Variable (100 ng genomic DNA)
Nuclease-free water	up to 25 µl

2. Gently mix the reaction components and briefly centrifuge. For optimal efficiency, use a 25 µl reaction volume. Use **thermocycling conditions** for standard PCR:

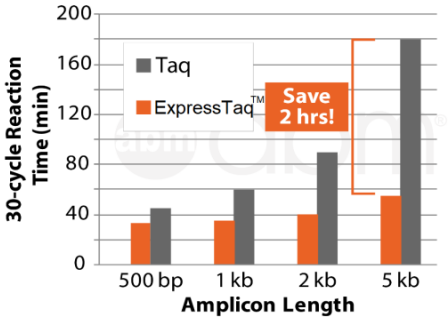
Step	Temperature	Duration
Initial Denaturation†	95 °C	3 min
25-35 cycles	95 °C	15 sec
	60 °C‡	15 sec
	72 °C	15 sec/kb
Final Extension	72 °C	1 min

† For most applications, an initial 3 min denaturation step at 95°C is sufficient. Increase to 5 min for high-GC or difficult templates.

‡ ExpressTaq™ PCR buffer allows for primer annealing at 60 °C for most primers and adjust only if needed.

3. After PCR, maintain the **reaction at 4°C** or store at -20°C until use.
4. **Analyze** the amplification products by agarose gel electrophoresis.
5. Visualize by ethidium bromide or SafeImage™ Basic DNA Stain (Cat No. M1193) staining.

1



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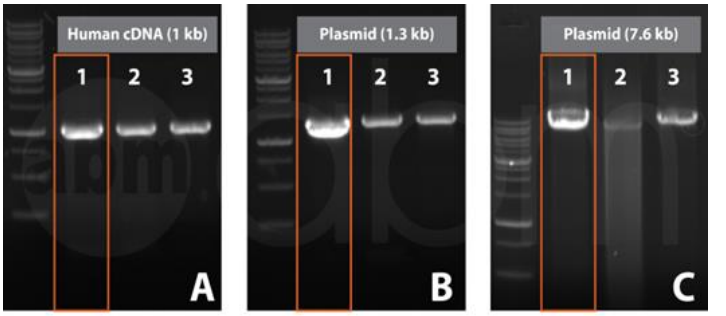

Fig 1. ExpressTaq™ DNA Polymerase enables extension speeds as fast as 6 kb/min. Total reaction times for ExpressTaq™ DNA Polymerase (Cat. No. M1504) and Taq Polymerase were determined for the amplification of different size amplicons: 500 bp, 1 kb, 2 kb and 5kb. Reaction times are based on a 30-cycle program using the recommended reaction protocol for each enzyme. **Fig 2.** PCR amplification using ExpressTaq™ DNA Polymerase (Cat. No. M1504) (lane 1) Vs competitor polymerases (lanes 2 and 3) of various targets, followed by electrophoresis on a 1% agarose gel. A) 1 kb target from human cDNA B) 1.3 kB target from plasmid DNA C) 7.6 kb target from plasmid DNA.

VIII. Related Products:

BioVision Product Name	Cat. No.	Sizes
HiFidelity™ 2X PCR MasterMix	M1507	800 Rxns
ExpressTaq™ DNA Polymerase	M1504	400 Rxns
HiFidelity™ DNA Polymerase	M1505	400 Rxns
FireTaq™ DNA Polymerase	M1506	400 Rxns
Taq DNA Polymerase	9001	500, 2500 units
PFU DNA Polymerase	9003	500, 2500 units
Laq™ DNA Polymerase	9004	500, 2500 units
HiFidelity™ One Step RT Kit	M1503	100 Rxns

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