

# ExpressTaq™ DNA Polymerase

(Catalog # M1504-400; 400 Rxns; Store at -20°C)

**I. Introduction:**

Biovision's ExpressTaq™ DNA Polymerase™ is a strategically-engineered, next generation Taq Polymerase that has rapid extension rates and robust performance. With specialized reaction conditions, this polymerase provides increased processivity, yields, sensitivity, and shortens reaction times by up to 70%, compared to wild-type Taq DNA polymerase. It 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™ DNA Polymerase can be used with TA cloning vectors.

**II. Contents:**

Components	M1504-400	Part Number
ExpressTaq™ DNA Polymerase	200 µl (400 rxn)	M1504-400-1
5X ExpressTaq™ Buffer*	2 x 1.0 ml	M1504-400-2

\*Buffer contains 1.5 mM Mg<sup>2+</sup>

**III. Key Features:**

- Specialized buffer for higher yields, sensitivity and specificity
- Decrease in reaction times by 70% using specialized protocol
- Superior Performance
- Rapid extension rates

**IV. Shipping and Storage Conditions:**

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

**V. Protocol:**

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

Component	Volume
5X ExpressTaq™ Buffer	5 µl
dNTP Mix (10 mM)	0.5 µl
Forward Primer (10 µM)	1 µl
Reverse Primer (10 µM)	1 µl
Template DNA	Variable (100 ng genomic DNA)
ExpressTaq™ DNA Polymerase	0.5 µl #
Nuclease-free H <sub>2</sub> O	up to 25 µl

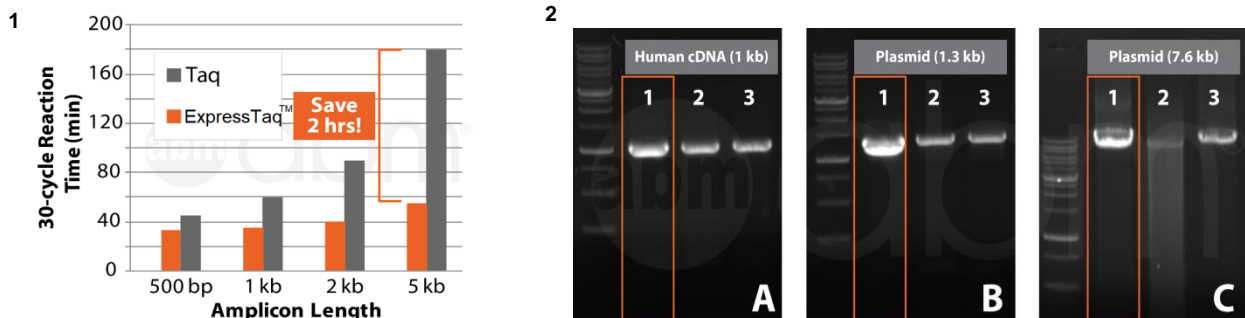
#0.5 µl of ExpressTaq™ DNA Polymerase is recommended for reaction volumes of 25 µl. Increase the volume to 1 µl for difficult targets or crude samples.

2. Gently mix the reaction components and briefly centrifuge. Run thermocycling conditions for standard PCR as given below.

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 minute denaturation step at 95 °C is sufficient. Increase to 5 min for high-GC or difficult templates

‡ExpressTaq™ Buffer allows for primer annealing at 60 °C for most primers, adjust only if needed.



**Fig 1.** ExpressTaq™ DNA Polymerase enables extension speeds as fast as 6kb/min. Total reaction times for ExpressTaq™ DNA Polymerase and Taq Polymerase were determined for the amplification of different size amplicons: 500 bp, 1 kb, 2 kb and 5kb. Reaction

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times are listed 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.

**VI. Related Products:**

BioVision Product Name	Cat. No.	Sizes
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

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