

## MedixMDx Fast Taq Polymerase

### Description

MedixMDx Fast Taq Polymerase is a thermostable recombinant DNA polymerase expressed by *Thermus aquaticus*. The enzyme uses state-of-the-art polymerase technologies and optimized buffer chemistry for improved polymerase processivity, yield, sensitivity, and specificity. MedixMDx Fast Taq Polymerase has an error rate of approximately 1 error per  $2.0 \times 10^5$  nucleotides incorporated.

MedixMDx Fast Taq Polymerase has 5' to 3' polymerase activity and 5' to 3' exonuclease activity but lacks 3' to 5' exonuclease activity. The enzyme is suitable for routine PCR applications including TA cloning, genotyping, screening, and library construction. The amplified product generated by MedixMDx Fast Taq Polymerase has 3'-dA and can therefore be cloned directly into TA cloning vectors. The enzyme is also compatible with a variety of DNA templates such as GC- and AT-rich DNA templates.

### Kit components

Component	*MX1101 500 Units
MedixMDx Fast Taq Polymerase (5 U/ $\mu$ L)	0.1 mL
$\infty$ 5x MedixMDx Reaction Buffer	4 X 1 mL

\*Other pack sizes or bulk orders are available upon request.

$\infty$ The 5x MedixMDx Reaction Buffer has been formulated for robust PCR performance. The buffer contains  $MgCl_2$ , dNTPs, stabilizers, and enhancers. Therefore, no further addition of these components is required or recommended.

### Storage and shipment

Transport with an ice pack or on dry ice (for shipments taking more than 2 days). The reagents should be stored between  $-30^\circ C$  and  $-15^\circ C$  upon arrival. The reagents are stable for 12 months if stored correctly. The reagents are stable for 1 month at  $4^\circ C$ .

### Mastermix set-up

The recommended mastermix set-up for a 50  $\mu$ L reaction volume is shown in the table below.

Reagent	Volume ( $\mu$ L)	Final concentration
5x MedixMDx Reaction Buffer	10	1x
$\infty$ Forward primer (10 $\mu$ M)	2	400 nM
$\infty$ Reverse primer (10 $\mu$ M)	2	400 nM
*DNA/cDNA template	X	Variable
MedixMDx Fast Taq Polymerase	0.25–1	Variable
Nuclease-free water	Up to 50 $\mu$ L final volume	
Total volume	50 $\mu$ L	

$\infty$ Primers should be specific to the target DNA/RNA of interest. The recommended  $T_m$  for primers is between  $56^\circ C$  and  $60^\circ C$ .

\*Use < 100 ng of cDNA or < 500 ng of genomic DNA.

### Instrument and program set-up

Cycles	Steps	Temperature	Time
1	Pre-denaturation	$95^\circ C$	1 min
40	Denaturation	$95^\circ C$	15 sec
	Annealing	$55-65^\circ C$	15 sec
	*Extension	$72^\circ C$	1–90 sec

\*The extension time should be 15 seconds per kb of target region.

### Technical information and support

For technical enquiries or assay development support, please contact us via e-mail at: [mdx@medixbiochemica.com](mailto:mdx@medixbiochemica.com). Additional information and technical resources are available on our website at: [www.medixbiochemica.com/en/MedixMDx](http://www.medixbiochemica.com/en/MedixMDx).

