

## MedixMDx HS Taq DNA Polymerase

### Description

MedixMDx HS Taq DNA Polymerase is a hot-start thermostable recombinant DNA polymerase expressed by *Thermus aquaticus*. The enzyme uses state-of-the-art hot-start antibody-based technology as well as optimized buffer chemistry for high sensitivity and yield, and rapid polymerase processivity. The enzyme is ideal for complex, difficult DNA templates and is resistant to PCR inhibitors. MedixMDx HS Taq DNA Polymerase has an error rate of approximately 1 error per  $2.0 \times 10^5$  nucleotides incorporated.

MedixMDx HS 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 multiplex PCR, TA cloning and genotyping, colony PCR and PCR directly from blood and urine, screening, and library construction. Amplified products generated by MedixMDx HS Taq Polymerase have 3'-dA and can therefore be cloned directly into TA cloning vectors. The enzyme is also compatible with fast and standard cycling with a variety of DNA templates such as GC- and AT-rich DNA templates.

### Kit components

Component	*MX1102, 250 Units
MedixMDx HS Taq DNA Polymerase (5 U/ $\mu$ L)	0.05 mL
$\infty$ 5x MedixMDx Reaction Buffer	2 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<sub>2</sub>, 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°C and -15°C upon arrival. The reagents are stable for 12 months if stored correctly. The reagents are stable for 1 month at 4°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
$\infty$ Optional probe (10 $\mu$ M)	0.5–1	100–200 nM
*DNA/cDNA template	X	Variable
MedixMDx HS Taq DNA Polymerase	0.25–1	Variable
Nuclease-free water	Up to 50 $\mu$ L final volume	
Total volume	Up to 50 $\mu$ L	

$\infty$ Primers and probes should be specific to the target DNA/RNA of interest. The recommended T<sub>m</sub> for primers is between 56°C and 60°C, and the T<sub>m</sub> for probes should be between 65°C and 70°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°C	1–2 min
	Denaturation	95°C	15 sec
40	Annealing	55–65°C	15 sec
	*Extension	72°C	1–90 sec

\*The extension time should be 15 seconds per kb of target region. Use 90 seconds for multiplex PCR.



## 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).



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