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## Product Descriptions

SharkaTAQ Hot Start DNA Polymerase is supplied in an inactive state that has no polymerase activity at ambient temperatures due to a novel patent pending method. This prevents non-specific amplification resulting from extension of nonspecifically annealed primers and primer-dimers formed at low temperatures during PCR setup and the initial PCR cycle. Provides high specificity, yield and sensitivity and is ideal for use in everyday PCR applications.

SharkaTAQ™ Hotstart polymerase is highly purified by column-chromatography and is free of any contaminating exonuclease and endonuclease activities.

## Key Features

- High specificity reduces potential background amplifications.
- Robust enzyme ideal for many PCR applications
- Easy assembly and room temperature set up
- Direct replacement for more expensive Hot Start Taq polymerases

## Applications

Any PCR application that requires high specificity, yield, or sensitivity

Multiplex PCR

Complex genomic templates

Complex cDNA templates (*e.g.* RT-PCR)

Very low-copy targets (*e.g.* single-cell PCR)

## Specifications

Concentration: 5 Units/ uL

Unit Definition: One unit is defined as the amount of enzyme that incorporates 10 nanomoles of dNTPs into acid-insoluble form in 30 minutes at 72°C.

## Kit Components

- SharkaTAQ Hot Start DNA polymerase (5U/ ul).
- PCR Buffer A - use when *yield* is important
- PCR Buffer B - use when *specificity* it important
- Includes MgCl<sub>2</sub> for further assay optimization & DMSO for GC rich sequences

Component	Final Concentration	Volume (20uL)	Volume (50uL)
<b>10X Buffer</b>	1X	2 µl	5 µl
<b>dNTPs (2.5mM each)</b>	250 µM	2 µl	5 µl
<b>Forward primer (10 µM)</b>	0.8 µM	1.6 µl	4 µl
<b>Reverse primer (10 µM)</b>	0.8 µM	1.6 µl	4 µl
<b>SharkaTAQ Hotstart (5U/µL)</b>	0.05 U / µl	0.2 µl	0.5 µl
<b>MgCl<sub>2</sub> (50mM)</b>	2.5 mM	0.28 µl	0.7 µl
<b>Template DNA</b>	As required	As required	As required
<b>H<sub>2</sub>O</b>		QS to 20 µl	QS to 50 µl
<b>TOTAL Volume</b>		<b>20 µl</b>	<b>50 µl</b>

Cycling conditions:

- (1) 94°C 15 minutes
- (2) 94°C 30 sec
- (3) Anneal temp °C 1 minute
- (4) 72°C 1min/Kb for 33 cycles
- (5) 72°C 5 minutes