



## Product Information Sheet

**Product Name:** FlashTaq HotStart DNA Polymerase without Buffer\*

**Concentration:** 5U/ $\mu$ l

**Ordering Information:**

Item Number	Units	Number of tubes	Total Volume
SS-FT-NB-25	25	FlashTaq HotStart DNA Polymerase - 25 units (1)	FlashTaq HotStart DNA Polymerase - (5 $\mu$ L)
FT-NB-100	100	FlashTaq HotStart DNA Polymerase - 100 units (1)	FlashTaq HotStart DNA Polymerase - (20 $\mu$ L)
FT-NB-500	500	FlashTaq HotStart DNA Polymerase - 500 units (1)	FlashTaq HotStart DNA Polymerase - (100 $\mu$ L)
FT-NB-1000	1000	FlashTaq HotStart DNA Polymerase - 500 units (2)	FlashTaq HotStart DNA Polymerase - (200 $\mu$ L)

**Storage and Handling:**

Store at -20°C upon arrival.

**Product Description:**

Empirical's FlashTaq HotStart DNA Polymerase is a chemically modified Taq DNA polymerase designed for reducing non-specific DNA amplification due to primer-dimer formation. FlashTaq is completely suppressed prior to activation, and regains full enzymatic activity in only 2 min at 94°C. Taq DNA Polymerase gene is isolated from *Thermus aquaticus* YT1 and expressed in *E. coli*.

Empirical FlashTaq HotStart DNA Polymerase is supplied in a storage buffer containing: 20mM HEPES (pH 7.9), 100mM KCl, 0.1mM EDTA, 1mM DTT, 50% (v/v) Glycerol, and other stabilizers.

**Reaction Set-Up for a 50 $\mu$ L Reaction:**

Component	Volume	Final Concentration
10X Reaction (MgCl <sub>2</sub> ) Buffer	5 $\mu$ l	1X
Upstream Primer, 10 $\mu$ M	1.0-5.0 $\mu$ l	0.2-1.0 $\mu$ M
Downstream Primer, 10 $\mu$ M	1.0-5.0 $\mu$ l	0.2-1.0 $\mu$ M
dNTP, 10mM	1-4 $\mu$ l	200-800 $\mu$ M
DNA Template	X $\mu$ l	>25ng DNA
FlashTaq HotStart DNA Polymerase	0.2-1 $\mu$ l	1U-5U
Nuclease Free Water to Volume	to 50 $\mu$ l	N.A.

\* This product is for "Research Use Only. Not for use in diagnostic procedures".

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**Thermal cycling conditions:** The following general cycling conditions are recommended but can vary depending on the template and primers being used.

Cycling Step	Temperature	Holding Time	Cycles
Initial Denaturation and FlashTaq HotStart Activation	94°C	30 sec - 2min	1
Denaturation	94-96°C	15 - 30sec	20-30
Annealing°	55-65°C	15 - 60sec	
Extension	70-72°C	1min/kb	
Final Extension	70-72°C	0-10min	1

°Annealing will depend on primer length and composition. Generally, begin 5°C below primer T<sub>m</sub>.

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