

### AptaHotTaq DNA Polymerase, 5 U/μl



**Description:** AptaHotTaq DNA Polymerase is an optimized mixture of recombinant Taq DNA polymerase and DNA aptamers. The polymerase activity is blocked during set-up of the PCR reactions at ambient temperature (20 – 30 °C) by the aptamer. At temperatures above 50 °C the aptamers reversibly dissociate from the enzyme. AptaHotTaq DNA Polymerase possesses a 5' - 3' polymerase activity and generates 3'A-overhangs. The PCR products obtained with AptaHotTaq DNA Polymerase are free of unspecific products and primer-dimers.

**Concentration:** 5 units/μl

**Storage:** -18 °C to - 22 °C for long term, + 2 to + 8 °C for short term

REF	119602	119610	colour
AptaHotTaq DNA Polymerase	200 units	1000 units	blue
Incomplete NH <sub>4</sub> * Reaction Buffer (10x)	1.8 ml	2x 1.8 ml	red
Complete NH <sub>4</sub> ** Reaction Buffer (10x)	1.8 ml	2x 1.8 ml	yellow
Complete KCl *** Reaction Buffer (10x)	1.8 ml	2x 1.8 ml	black
MgCl <sub>2</sub> , 100 mM	1 ml	2x 1 ml	green

\* Incomplete NH<sub>4</sub> Reaction Buffer (10x): pH 8.8, 0.1% Tween 20, free of MgCl<sub>2</sub>.

\*\* Complete NH<sub>4</sub> Reaction Buffer (10x): pH 8.8, 0.1% Tween 20, 20 mM MgCl<sub>2</sub>.

\*\*\* Complete KCl Reaction Buffer (10x): pH 8.8, 0.1% Tween 20, 15 mM MgCl<sub>2</sub>.

**Application:** AptaHotTaq DNA Polymerase is suitable for all regular PCR applications, especially for complex genomic or cDNA templates, low copy number targets, Multiplex and Real-Time PCR. This polymerase effectively amplifies templates up to 5 kb length.

**Unit definition:** One unit of activity is defined as the amount of enzyme required to incorporate 10 nmoles of dNTP into acid-insoluble DNA fraction in 30 minutes at 72 °C.



- This product is also available with a high concentration of 30 U/μl, please see REF 119630HC.
- SuperHotTaq DNA polymerase is a variant of this enzyme blocked by antibody, see REF 129002/ 129010.
- Do not vortex the polymerase tube (blue) to avoid damaging the enzyme.

### Recommended Standard Protocol:

Component	20 µl Reaction	Final Concentration
10x Reaction Buffer	2 µl	1 x
AptaHotTaq DNA Polymerase	0.2 µl	1 U
Forward Primer	Variable	100 – 400 nM
Reverse Primer	Variable	100 – 400 nM
dNTP Mix (10 mM)	0.4 µl	200 µM each
Template DNA	Variable	0.01 – 10 ng per reaction
PCR Water	adjust to 20 µl final volume	--

### Recommended Thermocycler Protocol

Step	Time	Temperature	Cycles
Initial Denaturation	3 minutes	92 – 95 °C	1 x
Denaturation	5 -10 seconds	92 – 95 °C	25 – 35 x
Annealing	5 -10 seconds	55 – 68 °C*	
Extension	30 seconds per 1 kb amplicon length	72 °C	

\* Depends on primer, the optimal annealing temperature is usually 2 – 5°C below the primer melting temperature