

# Atlas RedTaq DNA Polymerase

Cat. No.	Pack Size	Conc.
BAS0013	50 U SAMPLE	1 U/ $\mu$ l
BA00303	500 U	1 U/ $\mu$ l
BA00304	1000 U	1 U/ $\mu$ l
BA00305	2500 U	1 U/ $\mu$ l

## Storage:

Store at -20°C, shipping at room temperature.

## Reagents Provided:

- **Atlas RedTaq DNA Polymerase in Storage Buffer:** 20 mM Tris-HCl (pH 8.0), 1mM DTT, 0.1 mM EDTA, 100 mM KCl, 0.5% Nonidet P40, 0.5% Tween 20 and 50% glycerol.
- **10x Reaction Buffer:** 100 mM Tris-HCl (pH 8.8 at 25°C), 500 mM KCl, 0.8% Nonidet P40.
- **10x Reaction Buffer with (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>:** 750 mM Tris-HCl (pH 8.8 at 25°C), 200 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 0.1% Tween 20.
- **25 mM MgCl<sub>2</sub> Solution.**

## Description:

Atlas RedTaq DNA Polymerase has a special formulation with added inert red dye. This makes it very suitable for standard applications. Strong red color of the enzyme allows user to check the polymerase addition and verify adequate mixing.

Reaction products are ready for direct gel loading and the dye serves as marker for electrophoresis progress monitoring. Atlas RedTaq DNA Polymerase has 5'→3' DNA synthesis activity.

## Source:

Recombinant *E. coli* strain with cloned gene encoding *Thermus aquaticus* DNA polymerase.

## Quality data:

Activity and stability tested at 20, 30 and 40 cycles of PCR reactions at 95°C. Tested for the absence of human DNA contamination by PCR with Alu-specific primers.

## Unit definition:

One unit of the enzyme catalyzes the incorporation of 10 nanomoles of deoxyribonucleotides into a polynucleotide fraction in 30 min at 70°C.

**BIOATLAS***Science of Life***Recommended PCR reaction mix:**

Component	Quantity
Atlas RedTaq (1 U/ $\mu$ l)	1.25-2.5 U
10x Reaction Buffer (or with $(\text{NH}_4)_2\text{SO}_4$ )	5 $\mu$ l (1x)
25 mM $\text{MgCl}_2$	3-5 $\mu$ l (1.5-2.5 mM)
10 mM dNTP mix	1 $\mu$ l (200 $\mu$ M)
Primer Forward	0.3 -1 $\mu$ M
Primer Reverse	0.3 -1 $\mu$ M
DNA template	1-100 ng/ $\mu$ l
H <sub>2</sub> O PCR grade	Up to 50 $\mu$ l
<b>Total</b>	<b>50 <math>\mu</math>l</b>

**Recommended PCR cycles:**

Cycle step	Temp.	Time	Cycles
Initial denaturation	95°C	3-5 min	1
Denaturation	95°C	30-60 s	26-35
Annealing	50-68°C	30-60 s	
Elongation	72°C	1-4 min	
Final elongation	72°C	5-10 min	1

**IMPORTANT:** Annealing temperature should be 2-6°C lower than the primer melting temperature.

**Safety warnings and precautions:**

This product is designed for research purposes and *in vitro* use only. According to common laboratory safety practice, it is recommended to wear protective clothing, gloves and safety glasses. Please refer to [www.bioatlas.com](http://www.bioatlas.com) for Material Safety Data Sheet of the product.

*Some applications this product is used in may require a license which is not provided by the purchase of this product. Users should obtain the license if required.*

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