StarTaq Polymerase

Catalogue No.	Pack Size	Concentration
ST-TP-001-500U	**500U**	**5U/ul**
ST-TP-001-2000U	**2000U**	**5U/ul**

Product Description

StarTaq™ Polymerase is an industry-standard, recombinant Taq polymerase suitable for everyday PCR use. StarTaq DNA Polymerase is thermostable with 5' -> 3' exonuclease activity for probe cleavage (TaqMan assays). If hot start is required, users can select AbTaq™ 2.0 Polymerase instead.

Product Contents

Catalog No.	Component Name	Size
ST-TP-001-500U	StarTaq 2.0 Polymerase	500U
	10x StarTaq Buffer	1 x 2.5mL
	50mM $MgCl_2$	1 x 1mL
ST-TP-001-500U	StarTaq 2.0 Polymerase	2000U
	10x StarTaq Buffer	2 x 5mL
	50mM $MgCl_2$	4 x 1mL

10x StarTaq buffer composition: 200mM Tris-HCl, pH 8.4, 500mM KCl

Storage Condition and Stability

The enzyme and undiluted buffer solutions are stable when stored at -20℃ for 1 year.

Unit Definition

One Unit will incorporate 10 nmole of deoxyribonucleotide into DNA in 30 minutes at 75°C.

Product Application

Genotyping, PCR, RT-PCR

Specification	Features
Concentration	5U/ul
Recombinant Enzyme	Yes
Enzyme Activity	5' ->3' exonuclease activity
Sample/Target	Genomic DNA, plasmid DNA, cDNA etc.
With Hotstart	No
dNTPs included	No
Reaction Condition	At 1x concentration the reaction buffer assures optimal activity for StarTaq Polymerase

Product Suggested Protocol

1. Thaw the buffer and store on ice. Briefly vortex and centrifuge all reagents before setting up the reactions.
2. In a sterile PCR reaction tube placed on ice, add the following components listed below:

Components	Volume	Final Concentration / Notes
Primer Fwd	Variable	200 nM (100 – 500 nM)
Primer Rev	Variable	200 nM (100 – 500 nM)
10x StarTaq reaction buffer	5 µL	1x
10mM dNTP mix	1 µL	200 µM
50 mM $MgCl_2$	1.5 µL	1.5 mM. Optimise in 0.5mM increments.
StarTaq Polymerase at 5U/uL	0.2 µL	1 U per 50 µL or 0.25 – 2.5 U, adjusted based on user optimisation
DNA template	Variable	0.1 – 100ng (less for plasmid DNA)
Water, PCR Grade	Variable	To a final vol of 50µl

3. Mix and centrifuge briefly.
4. Suggested cycling conditions for short PCR products (<600bp; 25 – 40 cycles):

Duration	Temp	No. of cycles	Optimisation Notes
30 sec	95°C	1 cycle	Time may be extended to 5 min for GC-rich sequences and colony PCR
20 sec	95°C	30 cycles	15 – 30 sec
40 sec	45 – 68°C		15 – 60 sec. Temperature to depend on primer Tm
30 sec	68°C		45-60 sec. To be adjusted based on an extension rate of 1kb/min
5 min	72°C	1 cycle	
Indefinite	4°C	-	Hold

5. Run and visualise PCR products on a suitably stained agarose gel.