



DTI FabTaq

Instruction Manual for use



User Manual for DTI FabTaq

Catalogue number: DT0101.250, DT0101.500, DT0101.1K

Note: Applicable to all pack sizes

Manufactured by
DSS Takara Bio India Pvt Ltd
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1) Product Description:

DTI FabTaq is a recombinant version of full-length Taq polymerase. It has the same characteristics and capabilities as the native Taq polymerase and is suitable for a variety of standard PCR applications. The polymerase is supplied with buffer (Mg²⁺ plus).

2) Components:

Components	Cat# DT0101.250 (250 U)	Cat# DT0101.500 (500 U)	Cat# DT0101.1K (1000 U)
DTI FabTaq	250 Units	500 Units	1000 Units
10X PCR Buffer (Mg ²⁺ plus)	1 ml	1 ml x 2	1 ml x 4

3) Concentration: 5U/μl**4) Storage Buffer:**

Tris-HCl (pH8.0)	20 mM
KCl	100 mM
EDTA	0.1 mM
DTT	1 mM
Tween 20	0.5%
Nonidet P-40	0.5%
Glycerol	50%

5) Supplied 10X PCR Buffer (Mg²⁺ plus):

Tris-HCl (pH8.9)	100 mM
KCl	500 mM
MgCl ₂	15 mM

6) Storage: -20°C**7) Source:**

Escherichia coli carrying a plasmid that encodes the *Thermus aquaticus* DNA Polymerase gene.

8) Unit definition:

One unit is the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble products in 30 minutes at 74°C with activated salmon sperm DNA as the template-primer.

9) Purity:

Nicking, endonuclease, and exonuclease activity were not detected after the incubation of 0.6 μg of supercoiled pBR322 DNA, 0.6 μg of λDNA or 0.6 μg of λ-Hin d III digest with 10 units of this enzyme for 1 hour at 74°C.

10) Applications:

- For DNA amplification by PCR
- For DNA sequencing

11) PCR products:

As most PCR products amplified with DTI FabTaq have one A added at the 3'-termini, the obtained PCR product can be directly cloned into a T-vector. Also, it is possible to clone the product in a blunt-end vector after blunting and phosphorylation of the ends.

12) Materials required but not provided

Reagents: dNTP, PCR primers, sterile purified water, template

Equipment: Thermal cycler (DTI FabSpeed thermal cycler, model# TCST-9622)

Consumables: PCR tubes, Micropipettes and tips

13) Protocol

General reaction mixture for PCR (50 µl reaction volume):

Reagent	Volume
DTI FabTaq (5 U/µl)	0.25 µl
10×PCR Buffer (Mg ²⁺ plus)	5 µl
dNTP Mixture (2.5 mM each)	4 µl
Template	< 500 ng
Primer 1	0.2 - 1.0 µM (final conc.)
Primer 2	0.2 - 1.0 µM (final conc.)
Sterile purified water	up to 50 µl
Total	50 µl

14) PCR Conditions (an example):

Amplification of a 1 kb DNA fragment

98°C	10 sec	30 cycles
55°C*	30 sec	
72°C	1 min	

NOTE: Denaturation conditions vary depending on the thermal cycler and tubes used for PCR. The recommendation is 5 - 10 sec at 98°C or 20 - 30 sec at 94°C.

15) Quality Control Data:

Please see the Certificate of Analysis (CoA) for each lot.

16) Cool Start Method

The "Cool Start Method" provides more accurate amplification and minimizes nonspecific amplification. This is a simple method that does not require specialized enzymes or additional reagents.

17) Protocol of Cool Start Method

- 1) Keep all reagents on ice until use.
- 2) Prepare the reaction mixture on ice^{*1, 2}

* 1: Order of reagent addition does not influence results.

* 2: Results will not be affected by leaving the mixture on ice for 30 min before thermal cycling.

3) Set a thermal cycler with the designated program.^{*3}

* 3: PCR conditions do not need to be changed for Cool Start.

- 4) Set the tubes in a thermal cycler and start thermal cycling immediately.

18) Experimental sample:

Consistent amplification of 8 kb fragment from λ DNA is observed using the DTI FabTaq. The protocol used for the assay and the results are as follows:

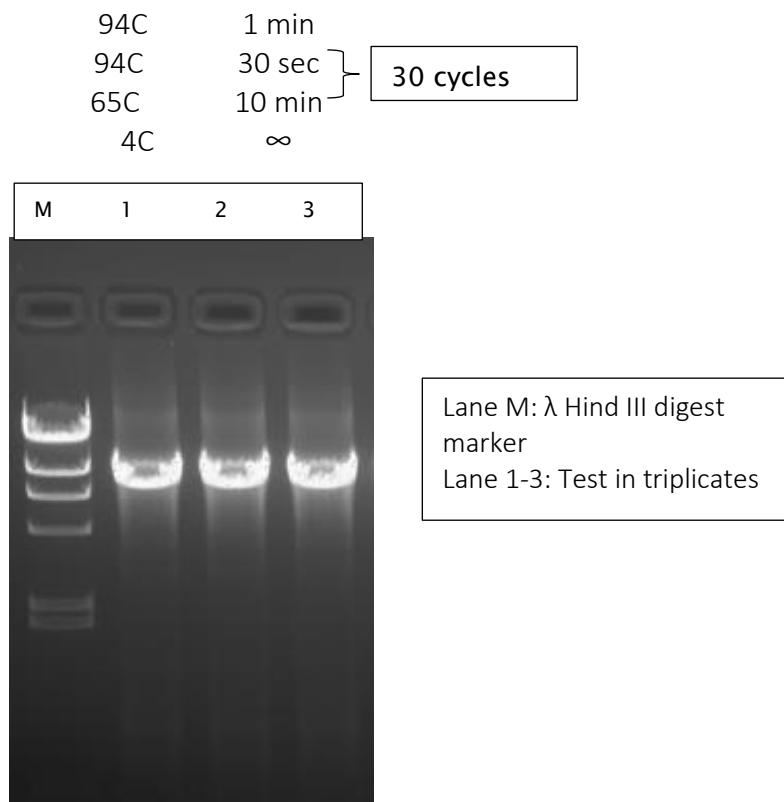


Figure 1: Gel electrophoresis image of PCR

Visit <https://store.dsstakarabio.com/pages/dti-fabtaq> for more detailed product information

For more information contact directly below;

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Toll-Free number 1800-212-4922

Description of Symbol Used:

- REF** Catalogue number
- LOT** Batch Code
-  Date of Manufacturing
-  Use-by-date
-  Contains sufficient for $< n >$ tests