

## Titanium® *Taq* DNA Polymerase

Catalog Nos.	Amount	Lot Number
639208	100 rxns	Specified on product label.
639209	500 rxns	Specified on product label.
639242	1,000 rxns	Specified on product label.

### Description

Titanium *Taq* is a mixture consisting of a 5' exonuclease-deficient *Taq* polymerase, and TaqStart™ Antibody, a monoclonal antibody which inhibits *Taq* at ambient temperatures. TaqStart Antibody provides automatic hot start PCR. Enough enzyme and buffer are supplied for PCR reactions of 50 µl each.

### Package Contents

<u>639208</u> (100 rxns)	<u>639209</u> (500 rxns)	<u>639242</u> (1,000 rxns)	
100 µl	5 x 100 µl	1 ml	50X Titanium <i>Taq</i> DNA Polymerase
600 µl	5 x 600 µl	6 ml	10X Titanium <i>Taq</i> PCR Buffer

### Storage Conditions

- Store at –20°C.

### Expiration Date

- Specified on product label.

### Shipping Conditions

- Dry ice

### Product Documents

Documents for our products are available for download at [takarabio.com/manuals](http://takarabio.com/manuals)  
The following documents apply to this product:

- Titanium *Taq* PCR Kit Protocol-At-A-Glance

### Recommended Usage

1. Combine the following in a 0.5 ml PCR tube on ice:

41 µl	PCR-grade H <sub>2</sub> O
5 µl	10X Titanium <i>Taq</i> PCR Buffer
1 µl	Primer mix (10 µM each)
1 µl	dNTPs (10 mM each of dATP, dCTP, dGTP, dTTP)
1 µl	DNA template
1 µl	50X Titanium <i>Taq</i> DNA Polymerase

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**50 µl Total**

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#### Takara Bio USA, Inc.

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2. Commence thermal cycling using the following general parameters:

95°C	1 min	(Denaturation)
30 cycles*:		
95°C	30 sec	] (Denaturation)
68°C	1.5 min	
68°C	3 min	

\*30 cycles with a 1.5-min annealing/extension time are sufficient for amplifying templates similar to the one used in our Quality Control tests for amplifying a cDNA fragment. Other templates may require more or fewer cycles and different annealing/extension times; we recommend using an annealing/extension time of 1 min per 1 kb of desired fragment.

## Quality Control Data

### Raw Material Quality Control

Purified Titanium *Taq* DNA Polymerase was tested for enzymatic activity and PCR performance. Endonuclease, exonuclease, and DNA contamination assays were also performed.

### PCR Performance

Titanium *Taq* was serially diluted and each serial dilution was used in a separate PCR reaction with  $\lambda$  genomic DNA as a template. Optimal dilution per reaction was determined as the amount of enzyme required to amplify >20 ng/ $\mu$ l of a 3.5 kb  $\lambda$  fragment with minimal background.

### Functional Quality Control

#### Amplification from a cDNA template:

Titanium *Taq* was tested in a 50  $\mu$ l PCR reaction using 5  $\mu$ l of Marathon®-Ready Human Placenta cDNA (Takara Bio, Cat. No. 639311) as a template and primers specific for a 1.3 kb fragment from the transferrin receptor gene (0.2  $\mu$ M each). Conditions were set at:

95°C	1 min	
30 cycles:		
95°C	15 sec	] ]
68°C	1.5 min	

5  $\mu$ l of the PCR product was run on a 1.2% TAE/agarose gel to confirm the presence of a 1.3 kb product with minimal background. PCR product concentration was measured by fluorometry. The yield was determined to be >5 ng/ $\mu$ l.

#### Amplification from a genomic DNA template:

Titanium *Taq* was tested in a 50  $\mu$ l PCR reaction using 100 ng of calf thymus genomic DNA as a template and primers specific for a 407 bp fragment of the BPTI gene (0.4  $\mu$ M each). Conditions were set at:

94°C	3 min	
30 cycles:		
94°C	30 sec	] ]
68°C	1.5 min	

5  $\mu$ l of PCR product was run on a 1.2% TAE/agarose gel to confirm the presence of a 407 bp product with minimal background. PCR product concentration was measured by fluorometry. The yield was determined to be >15 ng/ $\mu$ l.

It is certified that this product meets the above specifications, as reviewed and approved by the Quality Department.

## Titanium® Taq DNA Polymerase

### CATALOG NOS.

639208, 639209 & 639242

### NOTICE TO PURCHASER:

Our products are to be used for **Research Use Only**. They may not be used for any other purpose, including, but not limited to, use in humans, therapeutic or diagnostic use, or commercial use of any kind. Our products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products or to provide a service to third parties without our prior written approval.

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