



*TaKaRa Taq™*  
Hot Start Version  
GMP-grade

*Titanium® Taq SP*  
DNA polymerase  
GMP-grade

# GMP-grade DNA polymerases



High quality. Great performance.

With over 30 years of enzymology expertise, we are proud to have earned our customers' trust by providing reliable, high-performance enzymes that enable their success. This long history of quality is now paired with Good Manufacturing Practices (GMP), bringing an added level of confidence and reliability to our portfolio. We offer products that are produced in a GMP manufacturing facility under rigorous standards to ensure quality and consistency.

Our GMP-grade products are a natural complement to our commitment to providing high-performance, innovative products and services while maintaining high quality standards.



Our GMP-grade DNA polymerases offer:

- High performance
- Custom sizes and packaging

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As part of our commitment to understanding and meeting the quality needs of all of our customers, Takara Bio USA, Inc. (formerly Clontech Laboratories, Inc.) has obtained ISO 9001:2008 and ISO 13485:2003 certifications.

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See back page for product specifications and ordering information.

**Takara Bio USA, Inc.**

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## Which GMP-grade polymerase is right for your application?

	<i>TaKaRa Taq</i> Hot Start Version GMP grade	Titanium <i>Taq</i> SP DNA Polymerase GMP grade
<b>General characteristics</b>	Manufactured following rigorous standards to ensure quality and consistency.	
<b>Applications</b>	<ul style="list-style-type: none"> <li>Hot-start PCR</li> <li>End-point PCR</li> <li>qPCR</li> </ul>	<ul style="list-style-type: none"> <li>Hot-start PCR</li> <li>Multiplex PCR</li> <li>Genotyping</li> <li>Preparative PCR</li> <li>Whole-genome PCR</li> <li>Primer extension</li> <li>Rare template amplification</li> </ul>
<b>Formulated for commercial and OEM use</b>		✓
Enzyme specifications		
<b>Contamination (ribonucleases, endonucleases, exonucleases)</b>	No observable degradation	No observable degradation
<b>Nicking activities</b>	No observable relaxation of supercoiled DNA	No observable relaxation of supercoiled DNA
<b>Residual <i>E. coli</i> gDNA</b>	<10 copies/1.25 U	<10 copies/1 µl of enzyme
<b>Hot-start activity</b>	Confirmed	Confirmed
<b>T/A overhangs</b>	✓	✓
<b>PCR performance</b>	8-kb fragment was amplified	1.3-bp and 407-bp fragments were amplified
<b>Sensitivity (λ DNA)</b>	0.5-kb fragment was amplified from 10 pg of λ DNA	0.5-kb fragment was amplified from 10 pg of λ DNA
<b>Sensitivity (human gDNA)</b>	0.1-kb fragment was amplified from 30 pg of human genomic DNA	0.1-kb fragment was amplified from 30 pg of human genomic DNA

## PRODUCTS

Cat. #	Product	Size
R310A	<i>TaKaRa Taq</i> Hot Start Version GMP grade	250 U
R320A	Titanium <i>Taq</i> SP DNA Polymerase GMP grade	100 Rxns

### Notice to Purchaser

Your use of these products and technologies is subject to compliance with any applicable licensing requirements described on the product's web page at [takarabio.com](http://takarabio.com). It is your responsibility to review, understand and adhere to any restrictions imposed by such statements.

Our products are to be used for research purposes only. They may not be used for any other purpose, including, but not limited to, use in drugs, *in vitro* diagnostic purposes, therapeutics, or in humans. 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 prior written approval of Takara Bio USA.



Learn more:  
[takarabio.com/GMP-PCR](http://takarabio.com/GMP-PCR)