# Certificate of Analysis

## Advantage® HF 2 PCR Kit

| Catalog Nos. | Amount | Lot Number |
|---|---|---|
| 639123 | 100 rxns | Specified on product label. |
| 639124 | 10 rxns | Specified on product label. |

## Description

The Advantage-HF 2 Polymerase Mix, -HF 2 PCR Buffer, and -HF dNTP Mix have been specially formulated to amplify fragments up to ~3.5 kb with exceptionally high fidelity.

The Advantage HF 2 Polymerase Mix contains Titanium® *Taq* DNA Polymerase—a nuclease-deficient, N-terminal deletion of *Taq* DNA polymerase plus TaqStart® Antibody to provide automatic hot start PCR—and a minor amount of a proofreading polymerase. Enough reagents are supplied for 100 (Cat. No. 639123) or 10 (Cat. No. 639124) PCR amplifications of 50 µl each.

### Package Contents

| 639123 (100 rxns) | 639124 (10 rxns) | |
|---|---|---|
| 100 µl | 10 µl | 50X Advantage-HF 2 Polymerase Mix |
| 600 µl | 60 µl | 10X Advantage-HF 2 dNTP Mix |
| 600 µl | 60 µl | 10X Advantage-HF 2 PCR Buffer |
| 600 µl | 60 µl | 10X Advantage 2 PCR Buffer |
| 100 µl | 10 µl | Control DNA Template (~0.2 ng/µl) |
| 40 µl | 10 µl | Control Primer Mix (10 µM each) |
| 4 ml | 400 µl | PCR-Grade Water |

### 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**
The following documents apply to this product:

- Advantage HF 2 PCR Kit User Manual
- Advantage HF 2 PCR Kit Protocol-At-A-Glance

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(012423)

### References

Mo, J. Y., Maki, H., Sekiguchi, M. Mutational specificity of the dnaE173 mutator associated with a defect in the catalytic subunit of DNA polymerase III of Escherichia coli. *J. Mol. Biol.* **222,** 925–936 (1991).

## Quality Control Data

Purified N-terminal deletion mutant *Taq* polymerase was tested for enzymatic activity and PCR effectiveness.

Endonuclease, exonuclease, and DNA contamination assays were also performed.

### Fidelity and amplification capacity

The Advantage HF 2 Kit was tested using a fidelity assay and shown to produce mutations at a frequency of ≤0.6% after 25 cycles of amplification.

This genetic assay for measuring nucleotide misincorporation is based on amplification of an *E. coli* ribosomal protein gene (Mo et al. 1991). Mutations in this gene often confer streptomycin resistance on the host. Upon introduction of the amplified DNA into *E. coli*, the ratio of total transformants to streptomycin-resistant transformants provides a comparative measure of PCR fidelity.

Fragments of the bovine pancreatic trypsin inhibitor gene (0.9, 2.0, and 3.5 kb) were amplified using Advantage HF 2 for 30 cycles. 5 µl of each product was run on a TAE/agarose gel. An expected major band was observed for each of the fragments.

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

# Notice to Purchaser

# Advantage® HF 2 PCR Kit

## CATALOG NOS.

**639123 & 639124**

**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.

Your use of this product is also subject to compliance with the licensing requirements, listed below if applicable, and described on the product´s web page at http://www.takarabio.com. It is your responsibility to review, understand and adhere to any restrictions imposed by these statements.

**TRADEMARKS:**



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1/24/2023