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**PRODUCT: 10X Advantage® HF 2 PCR Buffer****CATALOG No.**  
639265**AMOUNT**  
1 ml**DESCRIPTION**

10X Advantage HF 2 PCR Buffer is specially formulated for use with our Advantage HF 2 Polymerase Mix. The Buffer and the proprietary dNTP Mix (included) are designed to work with the Advantage HF 2 Polymerase Mix to achieve 30-fold higher fidelity than that seen with wild-type *Taq* DNA Polymerase. The 10X Buffer and the dNTP Mix are also available in our Advantage HF2 PCR Kit (Cat. Nos. 639123 and 639124), which contains everything you need for high fidelity PCR.

**LOT NUMBER**

Specified on product label.

**STORAGE CONDITIONS**

Store at -20°C.

**SHELF LIFE**

1 year from date of receipt under proper storage conditions.

**SHIPPING CONDITIONS**

Dry ice (-70°C)

**PACKAGE CONTENTS**

- 1 ml 10X Advantage® HF 2 PCR Buffer
- 1 ml 10X HF 2 dNTP Mix

**FOR RESEARCH USE ONLY**

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**QUALITY CONTROL DATA**

See back of page.

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APPROVED BY: \_\_\_\_\_

(PA8Z3021)

**QUALITY CONTROL****Fidelity and amplification capacity**

The Advantage HF 2 PCR Buffer and HF 2 dNTP Mix were tested in PCR assays with Advantage HF 2 Polymerase, which was shown to produce mutations at a frequency of  $\leq 0.6\%$  after 25 cycles of amplification.

This genetic assay for measuring nucleotide misincorporation is based on amplification of an *E. coli* ribosomal protein gene (1). 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.

Different target regions (0.9, 2.0, and 3.5 kb) of the bovine pancreatic trypsin inhibitor gene were amplified using Advantage HF 2, Advantage HF2 PCR Buffer and HF2 dNTP Mix for 30 cycles. 5  $\mu$ l of each product was run on a TAE/agarose gel. For each target, a major band the expected size was observed.

**REFERENCE**

1. Mo, J. Y., *et al.* (1991) *J. Mol. Biol.* **222**(4):925–936.

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