

# OneStep™ PCR Inhibitor Removal Kit

Cat. No. D6030 (50 spin columns/purifications)



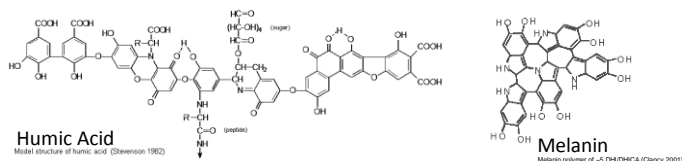
## Product Information

### Features:

- For high quality DNA or RNA that is free of enzymatic inhibitors including polyphenolics, humic/fulvic acids, tannins, melanin, etc.
- Fast, one-step procedure for "cleaning" impure samples prior to PCR, sequencing, RT, etc.

### Description:

The OneStep™ PCR Inhibitor Removal Kit contains all the components needed to efficiently remove contaminants from DNA/RNA preparations that can inhibit downstream enzymatic reactions such as PCR and RT. The column matrix has been specifically designed for efficient removal of polyphenolic compounds, humic/fulvic acids, tannins, melanin, etc. from most impure DNA and RNA preparations. Sample cleanup is as simple as: applying, spinning and recovering a sample from the column.



### Kit Contents:

|                            | Qty.  | Storage Temp. |
|----------------------------|-------|---------------|
| Zymo-Spin™ III-HRC Columns | 50    | Room Temp.    |
| Collection Tubes           | 50    | Room Temp.    |
| Prep-Solution              | 30 ml | Room Temp.    |
| Product Information Sheet  | 1     | -             |

### Protocol:

**Column Preparation:** Zymo-Spin™ III-HRC Columns need to be prepared prior to use:

- Insert column into a Collection Tube.
- Open the cap, add 600 µl of Prep-Solution and centrifuge at 8,000 x g for 3 minutes.
- Transfer the column to a clean 1.5 ml microcentrifuge tube.

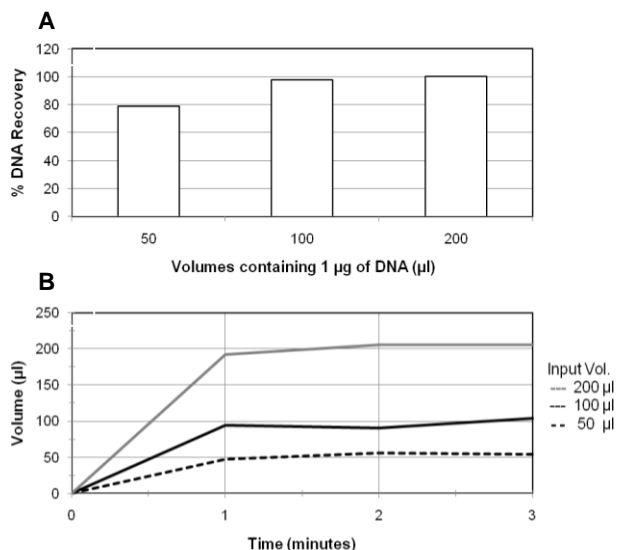
Note: Resin may appear dispersed or dislodged prior to column preparation. This is normal.

### Inhibitor Removal:

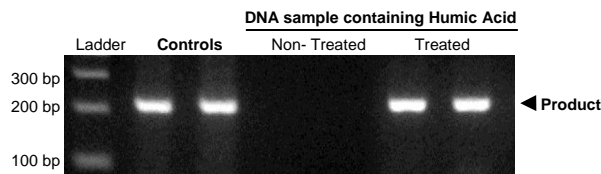
Add 50-200 µl DNA or RNA (in water, TE, or similar) to the prepared Zymo-Spin™ III-HRC Column and centrifuge at 16,000 x g for 3 minutes.

The filtered DNA (or RNA) is suitable for PCR, (RT), and other downstream applications.

### Performance Characteristics of the Zymo-Spin™ III-HRC Column



Figures A & B (above) depict the performance characteristics of the Zymo-Spin™ III-HRC Column. Figure A shows that some loss of DNA can occur with lower (50 µl) input volumes. However at higher input volumes, the recovery approaches 100%. Figure B shows that input volume recovery is complete after 1 minute for the input volumes tested. In all cases, data were plotted as the mean from experiments performed in triplicate.



DNA is efficiently amplified by PCR following humic acid removal with the OneStep™ PCR Inhibitor Removal Kit. The figure shows amplification of a 200 bp product from DNA containing humic acid that was "treated" with the kit. Alternatively, PCR amplification was completely inhibited in the case of the "non-treated" sample. In each case, equal amounts of DNA were used for each PCR and equivalent amounts of the reaction were then analyzed in a 2.0% (w/v) agarose/TAE/EtBr gel. The ladder is a 100 bp DNA marker (Zymo Research). Hot start PCR was performed using ZymoTaq™ PreMix (Zymo Research).

### References:

Clancy, C.M.R. et al. (2001) *Biochemistry*, 40, 13353-13360.  
Stevenson, F.J. (1982) *Humus Chemistry*. Wiley-Interscience, New York.

### Also Available:

|                                       | Quantity           | Catalog No. |
|---------------------------------------|--------------------|-------------|
| OneStep-96™ PCR Inhibitor Removal Kit | (2) 96 well plates | D6035       |

|                 | E2003<br>(50 Rxns.) | E2004<br>(200 Rxns.) | Conc. | Storage Temp. |
|-----------------|---------------------|----------------------|-------|---------------|
| ZymoTaq™ PreMix | 2 x 625 µl          | 8 x 625 µl           | 2X    | -20°C         |

Version 2.0.1

Note: ™ Trademarks of Zymo Research Corporation. This product is for research use only and should only be used by trained professionals. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility. The Polymerase Chain Reaction (PCR) process is covered by U.S. Patent: #4,683,195; 4,683,202 assigned to Hoffmann-La Roche. Patents pending in other countries. No license under these patents to use the PCR process is conveyed expressly or by implication to the purchaser by the purchase of Zymo Research's products. Further information on purchasing licenses to practice the PCR process can be obtained from the director of Licensing at Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404 or at Roche Molecular Systems, Inc., 1145 Atlantic Avenue, Alameda, California 94501.

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