

EZ DNA Methylation-Direct™ Kit

DNA Methylation Detection Directly From Cells!

Complete bisulfite conversion of DNA directly from blood, tissue, or cells.

Compatible with small sample inputs – as few as 10 cells or 50 pg DNA.

Well-suited for FFPE and LCM-derived samples.

Specifications

- **Starting Materials:**
Compatible with cells from solid tissue, tissue culture, whole blood, buffy coat, biopsies, LCM (Laser Capture Micro-Dissection) and FFPE samples, etc.
- **Conversion Efficiency:** > 99.5% of non-methylated C residues are converted to U; > 99.5% protection of methylated cytosines.
- **DNA Recovery:** > 80%
- **Sensitivity of Detection (Lower Limit):** 10 cells or 50 pg DNA.

Format

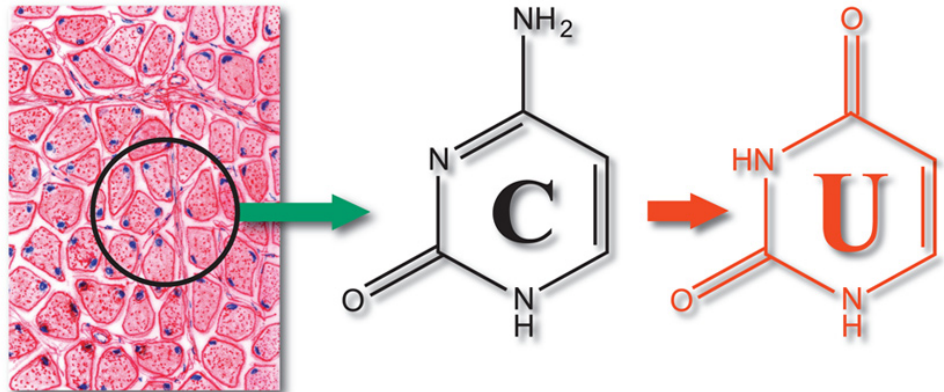
Spin-column and 96-well plates



ZYMO RESEARCH

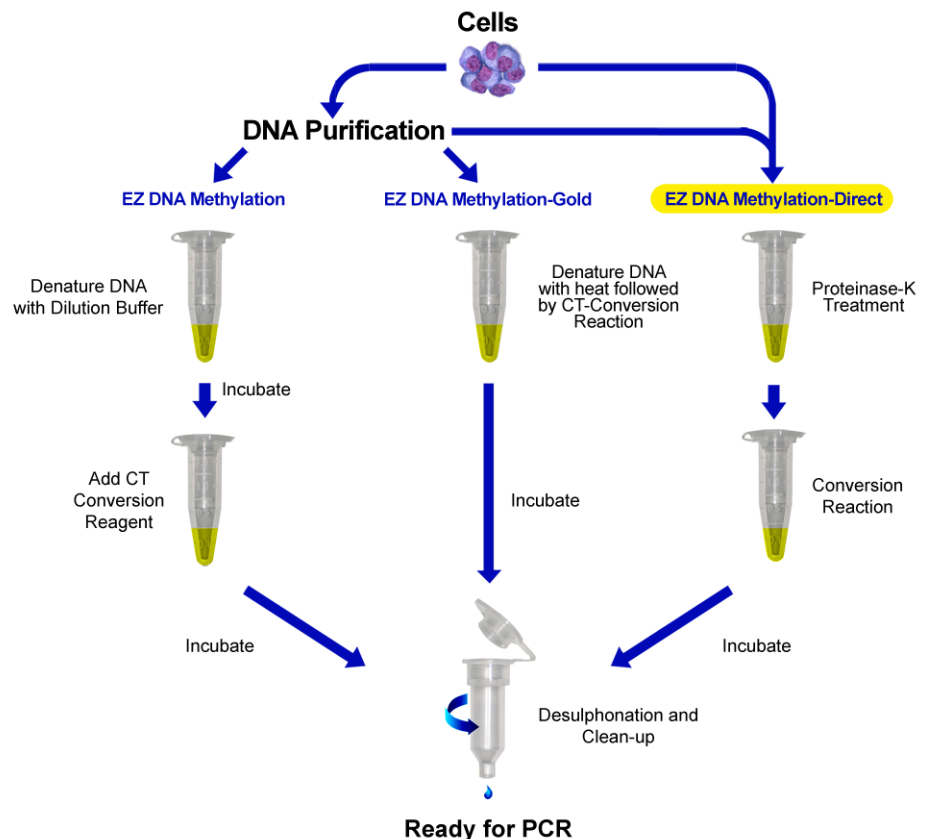
The Beauty of Science is to Make Things Simple

Toll-Free 1-888-882-9682
Main 1-714-288-9682
Fax 1-714-288-9643
Email info@zymoresearch.com
Web www.zymoresearch.com



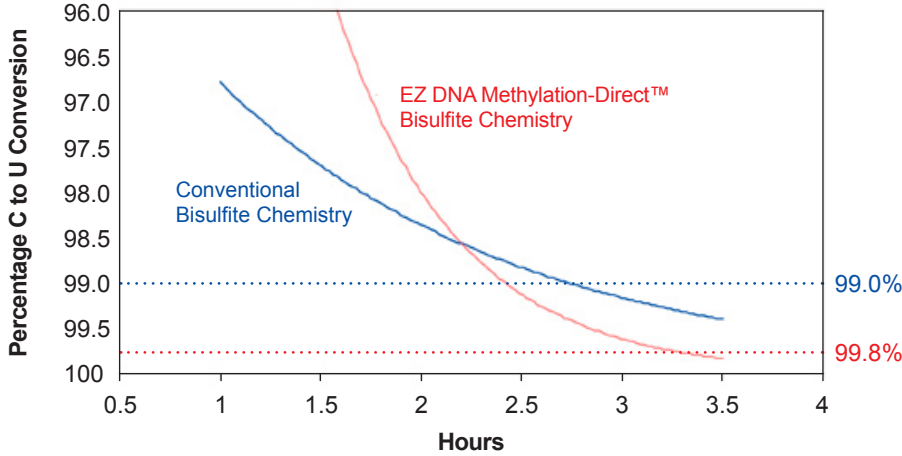
CpGpCpGpCpGp

The **EZ DNA Methylation-Direct™ Kit** is a further refinement of our popular **EZ DNA Methylation™** and **EZ DNA Methylation-Gold™ Kits**. The **EZ DNA Methylation-Direct™ Kit** features simple and reliable DNA bisulfite conversion directly from blood, tissue, and cells without the prerequisite for DNA purification. The increased sensitivity of this kit makes it possible to amplify bisulfite converted DNA from as few as 10 cells or 50 pg DNA. Like the **EZ DNA Methylation-Gold™ Kit**, DNA denaturation and bisulfite conversion processes are combined into a single step (see below). The kits have been designed to minimize template degradation, loss of DNA during treatment and clean-up, and to provide complete conversion of unmethylated cytosines. Recovered DNA is ideal for PCR amplification for downstream analyses including restriction endonuclease digestion, sequencing, microarrays, etc. An outline comparing the **EZ DNA Methylation-Direct™ Kit** procedure to Zymo Research's other methylation kits is shown below.



EZ DNA Methylation-Direct™ Kit

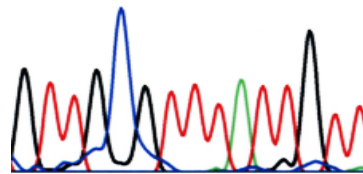
EZ DNA Methylation-Direct™ Bisulfite Chemistry Significantly Improves C to U Conversion Kinetics



Methylated DNA was converted using either conventional or EZ DNA Methylation-Direct™ bisulfite chemistries. Recovered DNA was amplified by PCR, then cloned. Sequences from individual clones were analyzed and quantitated. These data show that EZ DNA Methylation-Direct™ bisulfite chemistry improves the rate and extent (> 99.8%) of C to U conversion of DNA as compared to conventional bisulfite chemistry.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 Original DNA with methylated C^mpG ► G T T G C G C T C A C T G C C
 DNA Sequencing after CT conversion ► G T T G C G T T T A T T G T T



DNA sequencing results after bisulfite treatment. DNA with methylated C^mpG (at nucleotide position #5) was bisulfite treated. The recovered DNA was amplified by PCR and then sequenced directly. The methylated cytosine at position #5 remained intact while the unmethylated cytosines (i.e., positions #7, 9, 11, 14 and 15) were completely converted into uracil following bisulfite treatment and detected as thymine following PCR.

Ordering Information

| Product Description | Cat. No. | Kit Size |
|-----------------------------------|----------|----------------------------------------------|
| EZ DNA Methylation-Direct™ Kit | D5020 | 50 Rxns. |
| EZ DNA Methylation-Direct™ Kit | D5021 | 200 Rxns. |
| EZ-96 DNA Methylation-Direct™ Kit | D5022 | 2x96 Rxns. (Shallow-well Silicon-A™ Plate) |
| EZ-96 DNA Methylation-Direct™ Kit | D5023 | 2x96 Rxns. (Deep-well Zymo-Spin I-96™ Plate) |

The EZ DNA Methylation-Direct™ Kit is patent pending. The Polymerase Chain Reaction (PCR) process is covered by U.S. Pat. Nos. 4,683,195 and 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 EZ DNA Methylation kits. 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. Use of Methylation Specific PCR (MSP) is protected by US Patents 5,786,146 & 6,017,704 & 6,200,756 & 6,265,171 and International Patent WO 97/46705. No license under these patents to use the MSP process is conveyed expressly or by implication to the purchaser by the purchase of this product. Note - ™ Trademarks of Zymo Research Corporation. This product is for research use only and should only be used by trained professionals. Some reagents included with this kit are irritants. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility.