

Human High Methylated Genomic DNA Control



Product Highlights

- ▶ Human High Methylated Genomic DNA is derived from liver tissue and *in vitro* enzymatically methylated resulting in greater than 85% methylation in all regions of the genome. Most regions show more than 90% in methylation.
- ▶ Ideal for use as control in bisulfite methylation analysis procedures including Pyrosequencing, targeted NGS, and MS-HRM
- ▶ Tested on gene specific and global methylation assays for consistent performance
- ▶ Requires bisulfite modification prior to use

Product Contents

1 vial Human High Methylated Genomic DNA (5 µg at 100 ng/µL, > 80% Methylation)

Ordering Information

| CATALOG NUMBER | PRODUCT | PRICE |
|----------------|--|----------|
| 80-8061-HGHM5 | Human high methylated genomic DNA (5 µg at 100 ng/ µL) | \$242.83 |

Related Products

| CATALOG NUMBER | PRODUCT | PRICE |
|------------------|--|----------|
| 80-8063-MGHM5 | Mouse high methylated genomic DNA (5 µg at 100 ng/ µL) | \$252.56 |
| 80-8065-RGHM5 | Rat high methylated genomic DNA (5 µg at 100 ng/ µL) | \$252.56 |
| 80-8067-PMGHM5 | Monkey (<i>Macaca mulatta</i>) high methylated genomic DNA (5 µg at 100 ng/ µL) | \$281.63 |
| 80-8062-HGUM5 | Human low methylated genomic DNA (5 µg at 100 ng/ µL) | \$242.83 |
| 80-8064-MGUM5 | Mouse low methylated genomic DNA (5 µg at 100 ng/ µL) | \$252.56 |
| 80-8066-RGUM5 | Rat low methylated genomic DNA (5 µg at 100 ng/ µL) | \$252.56 |
| 80-8068-PMGUM5 | Monkey (<i>Macaca mulatta</i>) low methylated genomic DNA (5 µg at 100 ng/ µL) | \$281.63 |
| 80-8060H-PREMIX | Human Premixed Calibration Standard (1 µg per vial, 20 µL volume) | \$386.56 |
| 80-8060M-PREMIX | Mouse Premixed Calibration Standard (1 µg per vial, 20 µL volume) | \$402.40 |
| 80-8060R-PREMIX | Rat Premixed Calibration Standard (1 µg per vial, 20 µL volume) | \$402.40 |
| 80-8060PM-PREMIX | Monkey (<i>Macaca mulatta</i>) Premixed Calibration Standard (1 µg per vial, 20 µL volume) | \$412.46 |

Example Protocol

- ▶ Bisulfite modification of controls and sample(s) of interest.
 - Zymo Research EZ Methylation kit (Cat.#D5002 or D5004) with 200 - 500 ng of input DNA following manufacturers recommended protocol.
- ▶ PCR amplification Protocol:

| Component | Per 30µl reaction |
|---|-------------------------------|
| 10X PCR buffer (Contains 15mM MgCl ₂) | 3 µl (1x) |
| 25 mM MgCl ₂ | 1.8 µl (3.0 mM final conc.) |
| 10 mM dNTPs | 0.6 µl (200 µM of each) |
| 10 µM Fwd primer | 0.6 µl (6 pmol) |
| 10 µM Rev primer | 0.6 µl (6 pmol) |
| HotStar Taq Polymerase (5 U/µl) | 0.15 µl (0.75 U) |
| DNA | 1 µl of bisulfite treated DNA |
| Water | Adjust to 30 µl |

- HotStar Taq Polymerase Qiagen (Cat. #203205) recommended with the following PCR cycling conditions:
 - 95°C 15 min; 45 x (95°C 30 s; Ta°C 30 s; 72°C 30 s); 72°C 5 min; 4°C ∞
- Additional optimization is needed if different PCR system is used in analysis.
- ▶ Sequencing Analysis: Pyrosequencing, NGS, or MS-HRM.

Technical Specifications

- ▶ 5µg DNA in TE buffer (10mM Tris-HCl, 1mM EDTA, pH 8.0)
- ▶ Store at -20°C, in aliquots, for 2 years. For best results, do not freeze/thaw an individual aliquot more than three times. For longer term storage -70°C is recommended.

Example Quality Control Results

Figure: High Methylated Control DNA Tested on a Human MGMT Promoter Methylation Assay via Pyrosequencing
Pyrogram showing approximately 90% methylation at all CpG sites

