

MethylCollector™ Ultra for the Most Sensitive Enrichment of Methylated DNA

Active Motif's popular MethylCollector™ Ultra Kit is the fastest, most sensitive and specific kit available for enrichment of CpG methylated dinucleotides from fragmented genomic DNA. The patented MIRA (Methylated CpG Island Recovery Assay) technology combined with a magnetic bead-based protocol enables the most efficient methylated DNA enrichment method possible, with results in less than half the time required for MeDIP.

MethylCollector Ultra for the fastest enrichment of methylated DNA

Active Motif's MethylCollector Ultra Kit provides the most rapid and sensitive method for enrichment of methylated DNA. The kit's design is based on the patented MIRA technology that uses a purified MBD2b/MBD3L1 protein complex to bind methylated DNA. This high-affinity binding method provides greater enrichment than other MBD capture or antibody immunoprecipitation (MeDIP) methods (Table 1). MethylCollector Ultra requires as little as 1 ng (~200 cells) of input DNA and enables detection of methylation from DNA fragments containing as few as 5 methylated CpGs. Magnetic capture allows more rapid and

efficient recovery of methylated DNA. Recovered dsDNA is compatible with

various downstream applications including Next-Gen Sequencing (Figure 1).

MethylCollector™ Ultra (Cat. No. 55005)	MeDIP Kit (Cat. No. 55009)
Input material: 1 ng - 1 µg	Input material: 100 ng - 1 µg
–	Denature DNA for 10 minutes at 95°C
Combine DNA with MBD2b/MBD3L1 protein mix and nickel-coated magnetic beads for 1 hour at 4°C	Combine DNA, antibody, bridging antibody and magnetic beads, incubate overnight at 4°C
Wash beads 4 times using the included magnet	Wash beads 5 times
Elute methylated DNA at 50°C for 30 minutes	Elute methylated DNA at 4°C for 15 minutes
Add Proteinase K Stop Solution	Add Neutralization Buffer
DNA clean up by phenol/chloroform and ethanol precipitation, or with purification columns	DNA clean up by phenol/chloroform and ethanol precipitation, or with purification columns
DNA is ready for analysis	DNA is ready for analysis
Total time required: < 3 hours	Total time required: > 7 hours

Table 1: Comparison of the MethylCollector™ Ultra process to MeDIP.

NEW: MethylCollector Ultra-Seq Services Now Available

Active Motif has now expanded its offerings to include end-to-end MethylCollector™ Ultra-Seq Epigenetic Services.

Simply submit your cells or DNA and receive fully analyzed genome-wide methylation data in just 6-8 weeks.

For complete details on this and other services offered, please visit us at www.activemotif.com/services.

MIRA-Seq Service includes:

- DNA isolation from cells or tissues
- Methylated DNA enrichment using MethylCollector Ultra
- qPCR analysis of positive and negative control sites
- Next-Gen Library generation
- Sequencing of at least 30 million tags using the Illumina HiSeq platform
- Analysis: mapping, peak calling, visualization files and Excel output

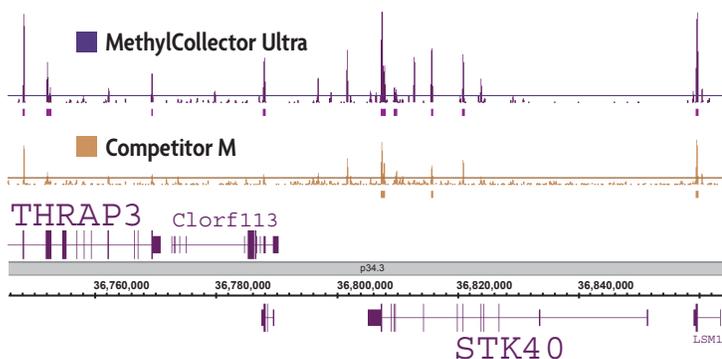


Figure 1: MethylCollector Ultra is more sensitive than other MBD-based enrichment methods.

The performance of MethylCollector Ultra was compared to that of an alternative MBD capture kit. Methylated DNA was isolated from 1 µg of human PBMC DNA using both enrichment kits. The enriched DNA was sequenced using the Illumina HiSeq platform. Regions of enrichment from a 1.2 Mb region of the genome are shown. The MethylCollector Ultra technology detected more methylated regions and the peaks were of greater intensity than those detected by the competitor's kit.