

Scalable methylation solutions for epigenomic research applications

Comprehensive DNA methylation portfolio from Illumina



Illumina supports epigenomic researchers with gold-standard Infinium™ methylation arrays and the innovative Illumina 5-base solution for simultaneous genome and methylome sequencing.

Both methylation research approaches have unique benefits.

Infinium methylation arrays

for highly reliable methylation data at the most affordable price

- Focuses on methylation sites enriched for regulatory and disease-relevant biology
- Provides highly precise changes in methylated positions
- Supports formalin-fixed, paraffin-embedded (FFPE) samples



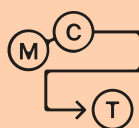
Key benefits

- Lowest cost methylation solution
- High precision at methylation sites
- Large-scale sample processing
- Low compute and data storage cost

Illumina 5-base solution

for maximum biological insights

- Detects genomic variants and methylation across the genome or in targeted regions
- Provides highly accurate genomic variants and regional-level methylation
- Supports cell-free DNA (cfDNA) and FFPE samples



Key benefits

- Single solution for dual insights
- Comprehensive coverage of methylated regions
- Fast library prep and integrated analysis

Complementary approaches to detect DNA methylation

Infinium methylation arrays



Coverage of curated biologically-relevant methylation sites for quantitative site-level methylation profiling

Illumina 5-Base DNA Prep



Whole-genome coverage to provide regional-level methylation insights and genomic variants across the genome

Illumina 5-Base DNA Prep with Enrichment



Coverage of custom regions of interest to detect methylation and genomic variants in targeted regions

Optimized workflows for methylation research

Infinium methylation arrays

- Highest-throughput methylation assay for large-scale processing with automated liquid handling
- ~400,000 samples/instrument/year
- Requires the iScan™ System



Example applications

- Population-scale epidemiology research
- Epigenome-wide association studies (EWAS)
- Cancer classifiers for research screening

Illumina 5-base solution

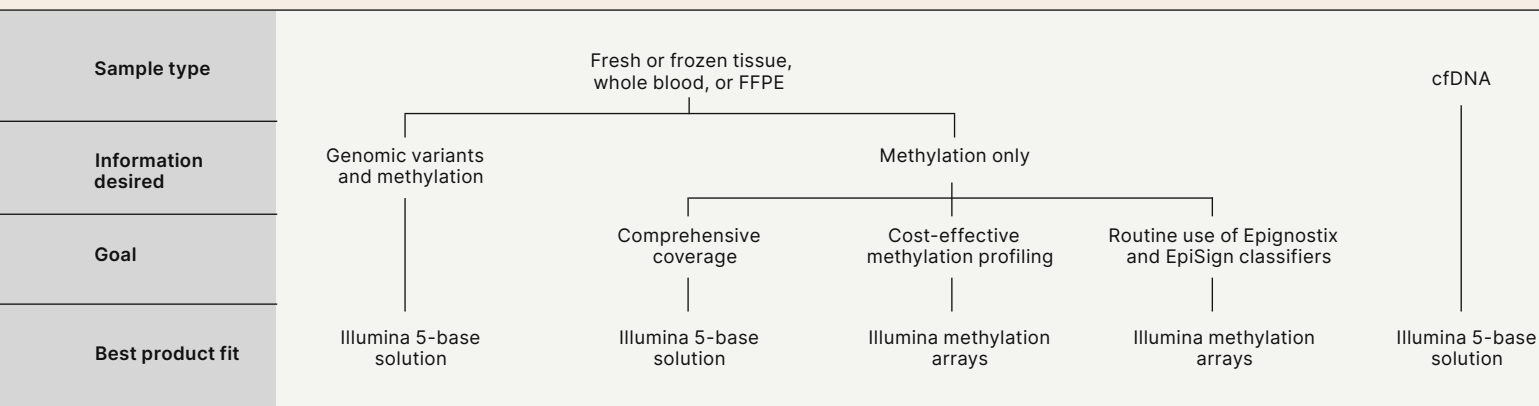
- Streamlined NGS workflow for 5-base insights from a single library prep, sequencing run, and analysis
- ~15,000 samples/instrument/year
- Requires the NovaSeq™ X Series, NovaSeq 6000 System, or NextSeq™ 2000 System



Example applications

- Liquid biopsy research
- Whole-genome discovery
- Emerging cancer classifiers based on multiomic read out

Choose the methylation assay best suited for answering your questions



"Illumina arrays and the 5-base solution are not competing technologies—they are complementary components of a unified multiomic strategy. Together, they enable immediate utility across research and translational applications while paving a natural path toward fully integrated multiomic insights."

Explore DNA methylation analysis methods



Bekim Sadikovich,
London Health Sciences



Learn more

www.illumina.com/epigenetics