



5hmC Profiling Services

5hmC-Seal-seq | oxBS-seq | ACE-seq | hMeDIP-seq | ONT Long-read Sequencing

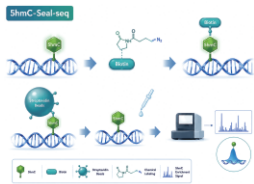
5hmC

Choose the right 5hmC profiling strategy for your sample type, resolution requirement, and epigenetic research question.

Service Overview

5hmC-Seal-seq

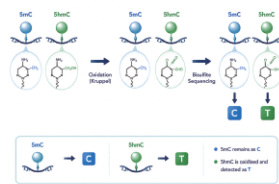
Sensitive enrichment-based 5hmC profiling



- Chemical labeling and enrichment of 5hmC-containing DNA
- Best for high-throughput, low-abundance 5hmC mapping

oxBS-seq

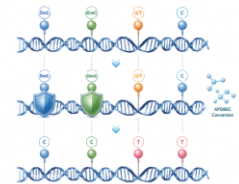
Single-base discrimination of 5mC and 5hmC



- Oxidative conversion enables 5mC-specific detection
- Best for precise 5mC / 5hmC distinction with paired BS-seq

ACE-seq

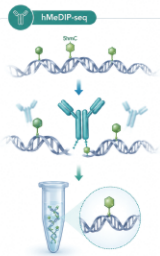
Enzymatic, non-destructive single-base 5hmC sequencing



- β -GT protection and APOBEC-based conversion
- Best for low-input, high-confidence 5hmC profiling

hMeDIP-seq

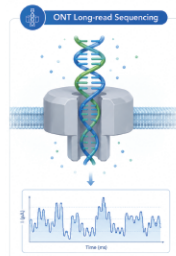
Antibody-based regional 5hmC enrichment profiling



- Immunocapture of 5hmC-containing genomic fragments
- Best for cost-effective 5hmC peak surveying

ONT Long-read Sequencing

Direct native DNA modification detection

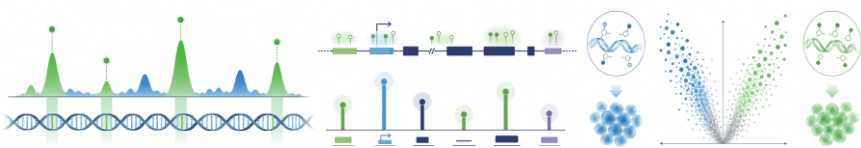


- Direct detection of 5mC and 5hmC from nanopore signal
- Best for long-read methylation phasing and complex regions

Method Comparison

| Method | Resolution | Principle | Sensitivity | Best Application |
|--------------------------|-------------------------|-----------------------------------|--------------|--|
| 5hmC-Seal-seq | Regional / Peak | Chemical labeling | High | High-throughput, low-abundance 5hmC mapping |
| oxBS-seq | Single-base | Chemical oxidation | Moderate | Precise 5mC / 5hmC discrimination; paired BS-seq |
| ACE-seq | Single-base | Enzymatic APOBEC-based conversion | High | Low-input, non-destructive, single-base 5hmC profiling |
| hMeDIP-seq | Regional / Peak | Antibody pull-down | Low-Moderate | Initial surveying and cost-effective 5hmC peak profiling |
| ONT Long-read Sequencing | Single-base / Long-read | Direct nanopore signal detection | Moderate | Native 5mC / 5hmC distinction and methylation phasing |

Data Analysis & Deliverables



- Sequencing QC and clean data summary
- 5hmC site or peak identification
- Differential modification analysis
- Genomic annotation and feature distribution
- Visualization files and integrated project report

