

Sample Prep Applications for the MiSeq® system

Which Illumina Sample Prep Kit is right for me?

TruSeq® family

- DNA HT
- Total RNA
- Cust Amp
- DNA LT
- mRNA
- Cust Enrch
- ChIP-Seq
- Sm RNA
- Ca Panel

Nextera® family

- DNA
- Cust Enrch
- Sm DNA
- Exome

Script™ family

- Script Seq
- Script Min

Area of Interest	Application	Method	Input	Sample Prep Kit
Targeted Resequencing	<ul style="list-style-type: none"> Variant discovery DesignStudio™-generated panels 	Hybrid capture (thousands of targets)	Human gDNA with custom oligo panel	<ul style="list-style-type: none"> DNA HT DNA LT Cust Enrch Exome
	<ul style="list-style-type: none"> Variant discovery, validation and screening DesignStudio-generated panels Pre-designed panels 	Amplicon sequencing (hundreds of targets)	<ul style="list-style-type: none"> Human gDNA FFPE DNA 	<ul style="list-style-type: none"> Cust Amp Ca Panel
	<ul style="list-style-type: none"> Non-model population genetics Viral load/identity in blood serum High throughput drug screening Knockout screening FFPE or fresh frozen tissue tumor normal pairs High sample volume genotyping 	Amplicon sequencing (tens of targets)	Amplicons/PCR products derived from gDNA or cDNA	<ul style="list-style-type: none"> DNA HT DNA LT DNA Sm DNA
	<ul style="list-style-type: none"> Environmental testing Animal testing Plasmids 	Metagenomics (16S rRNA)	Microbial gDNA	<ul style="list-style-type: none"> DNA HT DNA LT DNA Sm DNA
	<ul style="list-style-type: none"> Mutagenesis Vector/plasmid inserts Transfection/infection checking 	Clone checking	PCR product/plasmid DNA	<ul style="list-style-type: none"> DNA HT DNA LT DNA Sm DNA
Small Genome Sequencing	<ul style="list-style-type: none"> Microbial or viral genomes Non-model organisms Microbial or viral exome BAC/YAC screening Detecting recombination events 	<i>De novo</i> sequencing	gDNA	<ul style="list-style-type: none"> DNA HT DNA LT DNA Sm DNA
	<ul style="list-style-type: none"> SNP discovery Filling gaps in <i>de novo</i> assembly Detecting indel and recombination events 	Resequencing	gDNA	<ul style="list-style-type: none"> DNA HT DNA LT DNA Sm DNA
RNA Sequencing	<ul style="list-style-type: none"> Small RNA discovery Gene regulation Drug efficacy/effect screening 	Small RNA sequencing	Purified small RNA, total RNA	<ul style="list-style-type: none"> Total RNA Sm RNA Script Min
	<ul style="list-style-type: none"> Gene expression analysis Transcriptome analysis Biomarker ID Tumor profiling Drug efficacy/effect screening 	RNA-Seq	Purified mRNA, total RNA	<ul style="list-style-type: none"> Total RNA mRNA Script Seq
Quality Control	<ul style="list-style-type: none"> Determining library abundance, fragment length, mismatch rate, and diversity 	Library QC	Library DNA	<ul style="list-style-type: none"> DNA HT DNA LT Total RNA mRNA DNA Sm DNA
Regulation	Studying protein-DNA interactions: <ul style="list-style-type: none"> Transcription factors Polymerases Structural proteins 	ChIP-Seq	Immunoprecipitated DNA	<ul style="list-style-type: none"> ChIP-Seq
Methylated DNA	<ul style="list-style-type: none"> Identify and track methylation patterns in DNA 	Resequencing	Bisulfite-converted DNA, methylation-sensitive digest fragments, aza-labeled DNA	<ul style="list-style-type: none"> DNA HT DNA LT