



WGS Library Prep Kits.

Whole Genome Sequencing (WGS) enables researchers to decode the complete DNA sequence of an organism's genome, providing an exhaustive, base-by-base overview of its genetic material. As the cost of sequencing decreases, WGS is becoming increasingly accessible, leading to a growing need for fast and robust library preparation workflows. Our library prep solutions are designed to meet this need, providing researchers with streamlined solutions that ensure reliable results.

Revvity provides three different approaches designed to facilitate WGS for customers utilizing Illumina® and Element Biosciences® sequencing instruments. These workflows differ in the method that the researcher uses to fragment input DNA. Please continue reading to understand which is the best option for you.



No fragmentation – cell-free DNA

Cell-free DNA (cfDNA) is a unique and important type of DNA that is found circulating freely in the bloodstream and other bodily fluids. Its small size makes additional fragmentation unnecessary. Revvity's NEXTFLEX™ Cell-free DNA-seq 2.0 kit includes an optional step to enrich for the mono nucleosomal fraction.

Mechanical fragmentation

Traditional approach where DNA is broken using physical methods like sonication or nebulization, which mechanically shear the DNA. DNA is fragmented before entering the library preparation. Preferred for applications where highly random fragmentation is required, or where enzyme-induced biases might be a concern.

Enzymatic fragmentation

Alternative method where DNA is fragmented during the library preparation, using enzymes to cut DNA in a random manner. Revvity's kits are based on the use of DNase, which fragments DNA into pieces of an appropriate size for sequencing. This method offers better control over fragment size than mechanical fragmentation and is easier to scale for high-throughput sequencing. It is particularly advantageous when working with limited DNA samples or when uniform coverage is essential.

Selection guide

Fragmentation	Sample type	Kit	Multiplexing
None	cfDNA	NEXTFLEX Cell-free DNA-seq Library Prep Kit 2.0	NGS Barcode Adapters
Mechanical	gDNA	NEXTFLEX Rapid DNA-seq Kit 2.0	
Enzymatic	gDNA	NEXTFLEX Rapid XP V2 DNA-seq Kit	
		NEXTFLEX Rapid XP V2 DNA-Seq Kit for Metagenomics	
		NEXTFLEX HT Agrigenomics Low-pass WGS Kit	



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