ILLUMINA DNA PREP LIBRARY WORKFLOW

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Introduction to sequencing

- **Sequencing:** a laboratory process that determines the precise order of the four chemical bases (adenine, guanine, cytosine, and thymine) in a nucleic acid molecule (DNA)
- **Sequencing approaches:**

- long read sequencing (1000bp -10,000bp)
- short read sequencing (30-500bp)

These approaches also differ in the chemistry/ technology used for sequencing

Sequencing by Synthesis (SBS)

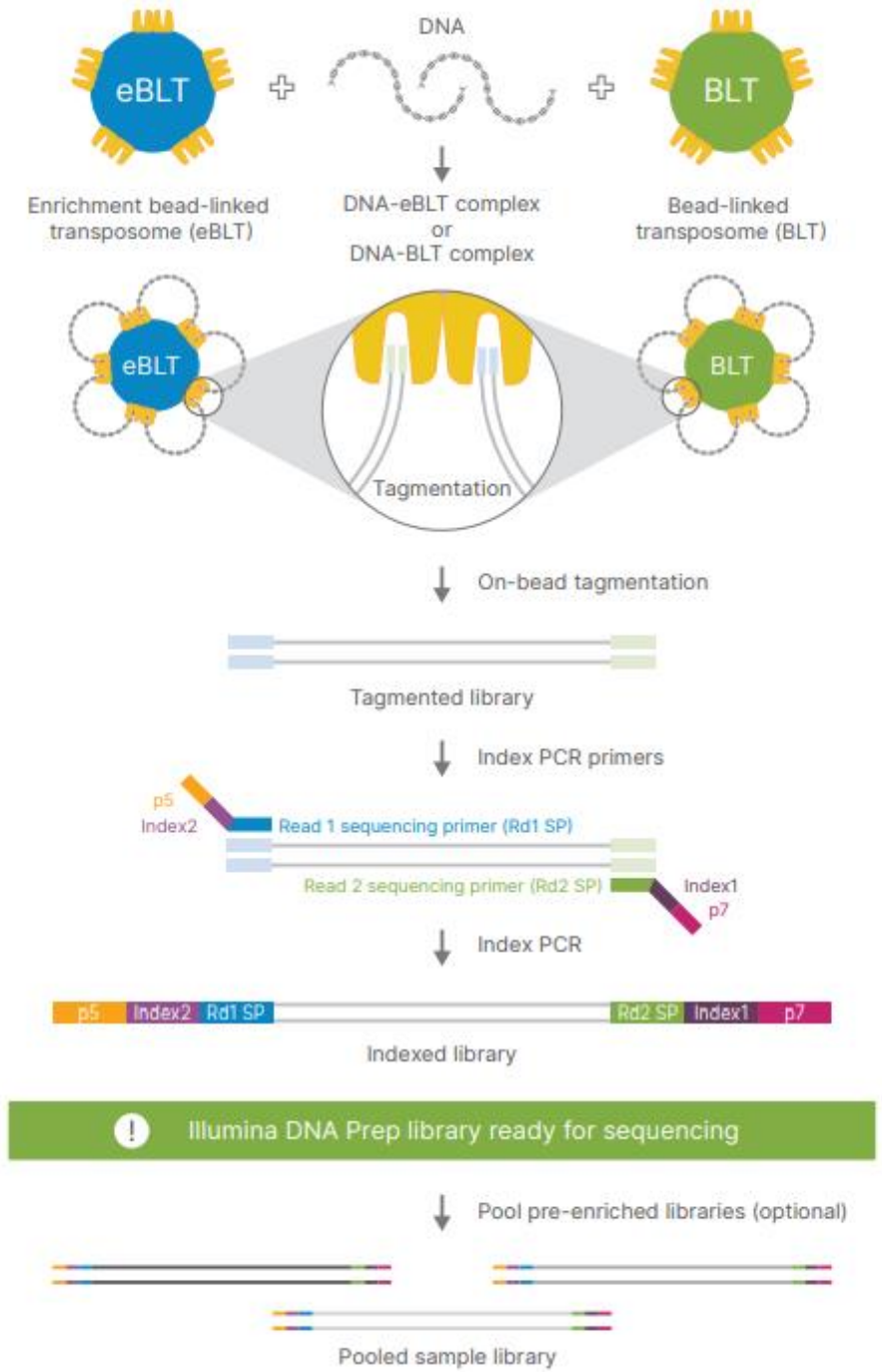
- https://www.illumina.com/science/technology/next-generation-sequencing/beginners/ngs-workflow.html

NGS workflow

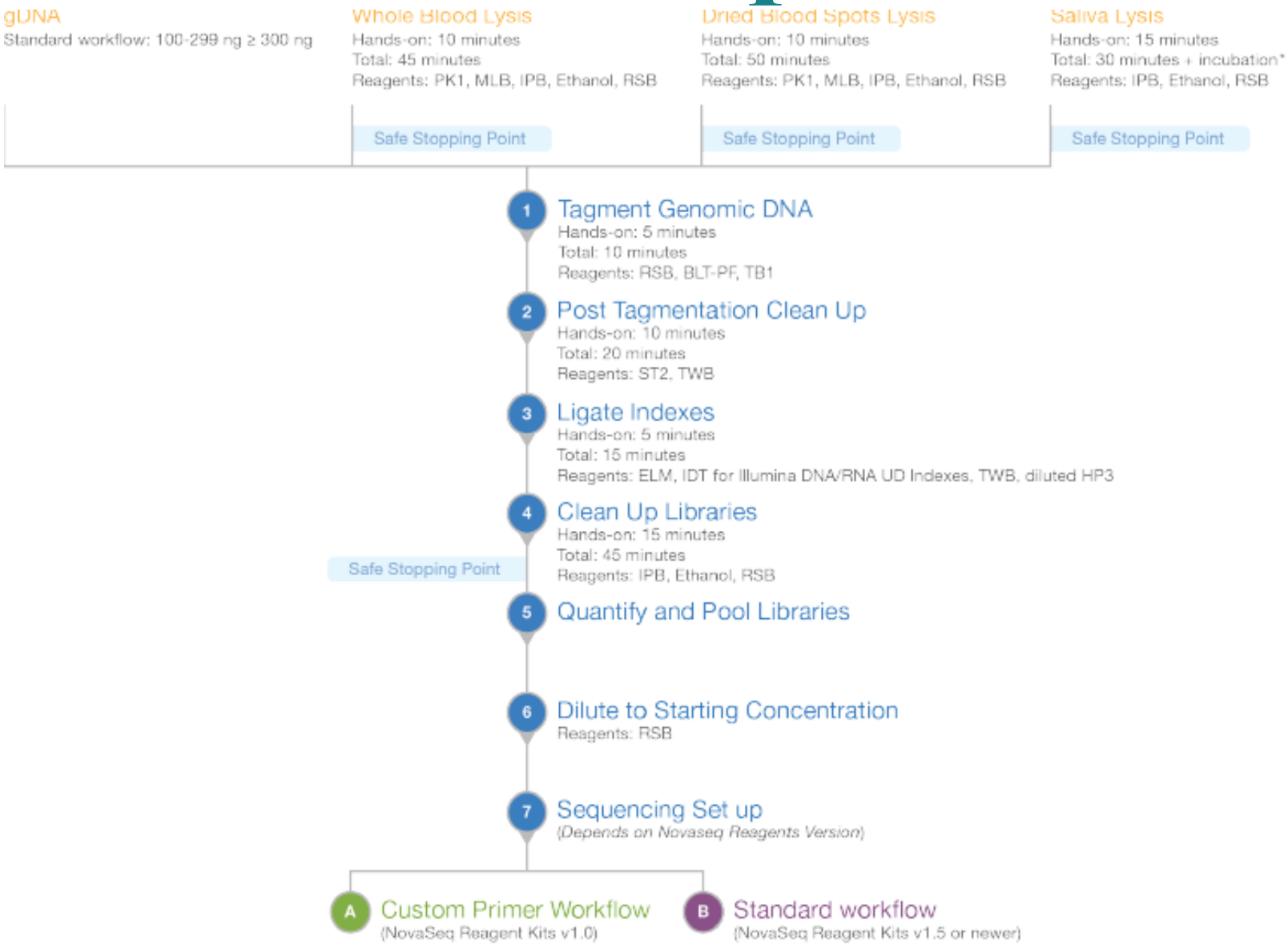
- **Step 1: DNA Extraction**
- **Step 2: Library preparation**
- **Step 3: Sequencing**
- **Step 4: Analysis**

Library Preparation

- The library preparation process involves converting a genomic DNA sample (or cDNA sample) into a library of fragments, which can then be sequenced on an NGS instrument



Illumina DNA Prep Workflow



Illumina Sequencing Systems

iSeq™ 100

MiniSeq™

MiSeq™

MiSeq™ i100
MiSeq™ i100 Plus

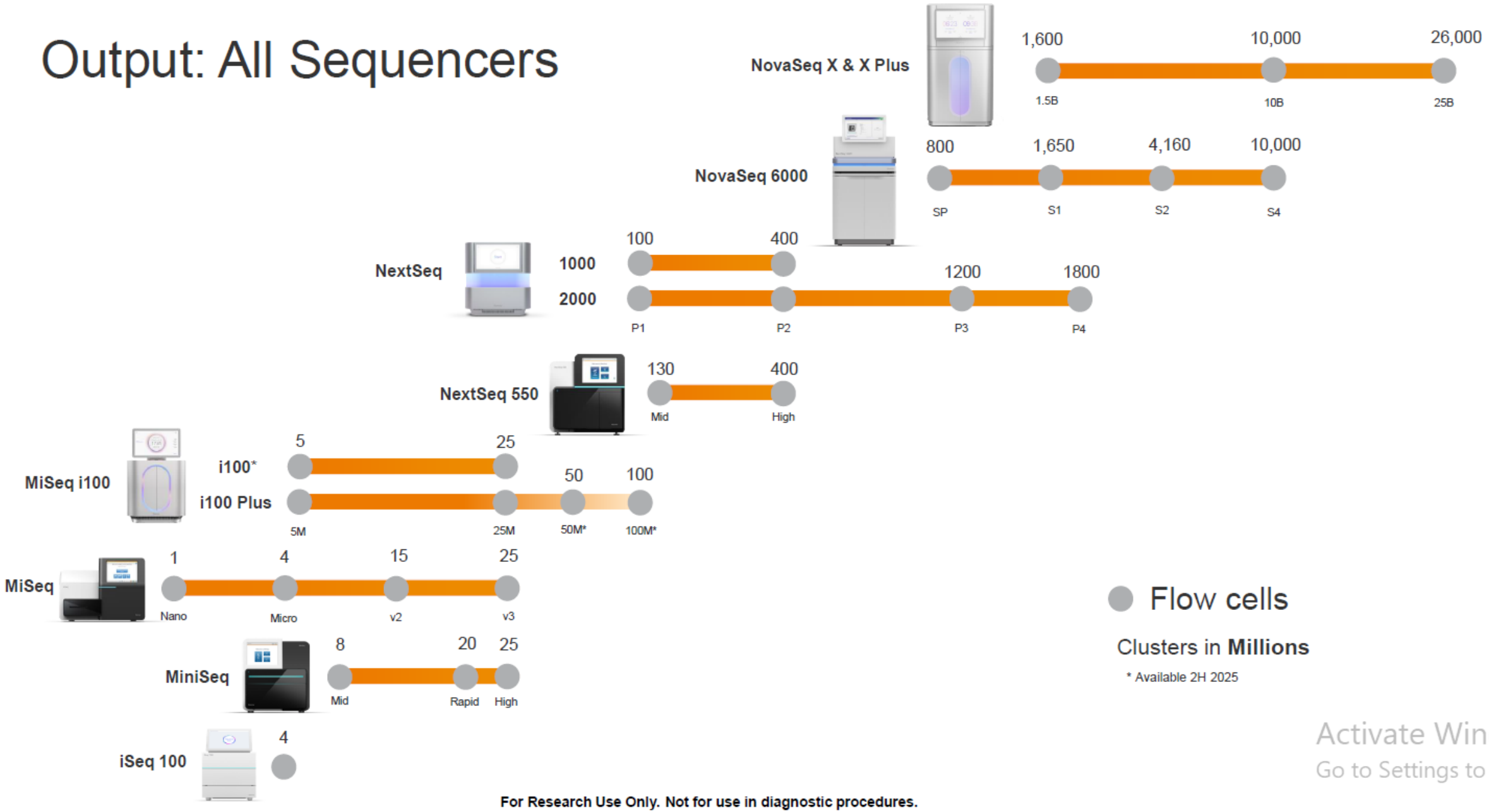
NextSeq™ 550

NextSeq™ 1000
NextSeq™ 2000

NovaSeq™ 6000

NovaSeq™ X
NovaSeq™ X Plus

Output: All Sequencers



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