

Library preparation workflows for the new age of high throughput sequencing

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Next-generation sequencing

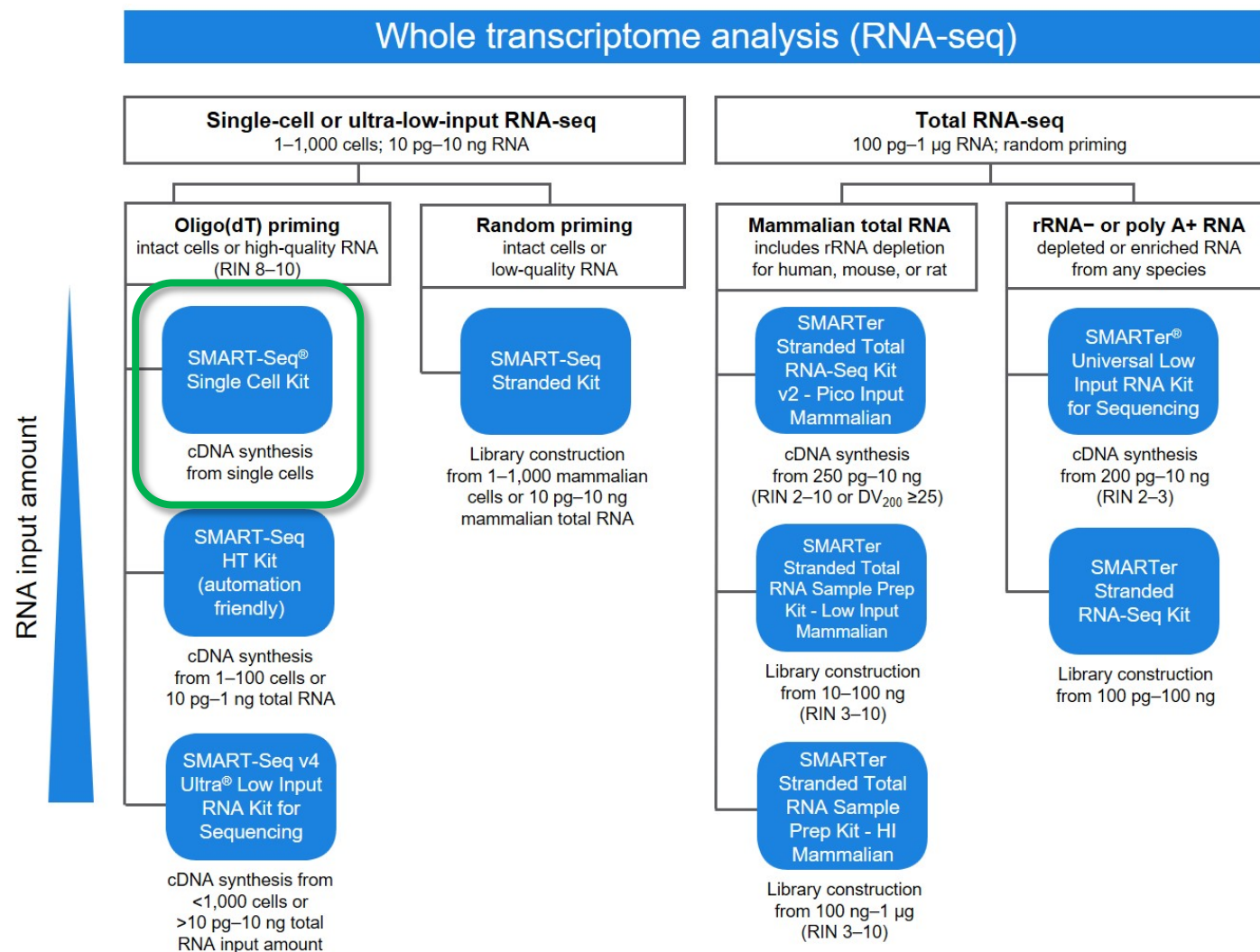


Breaking performance barriers

A complete portfolio for next-gen sequencing

- Sensitivity – unparalleled in NGS prep
- Reproducibility – fewer repeats, greater efficiency
- Reliability – strict manufacturing standards
- Ease of use – reduce time, errors, and variability
- Scalability – simple workflows easily port to miniaturization and liquid handling

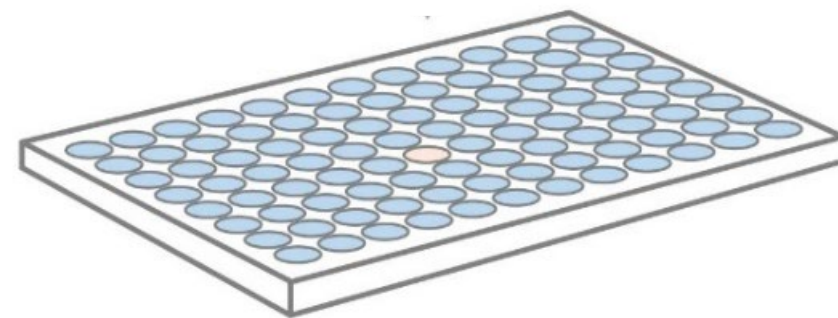
SMARTer® whole transcriptome analysis (RNA-seq)



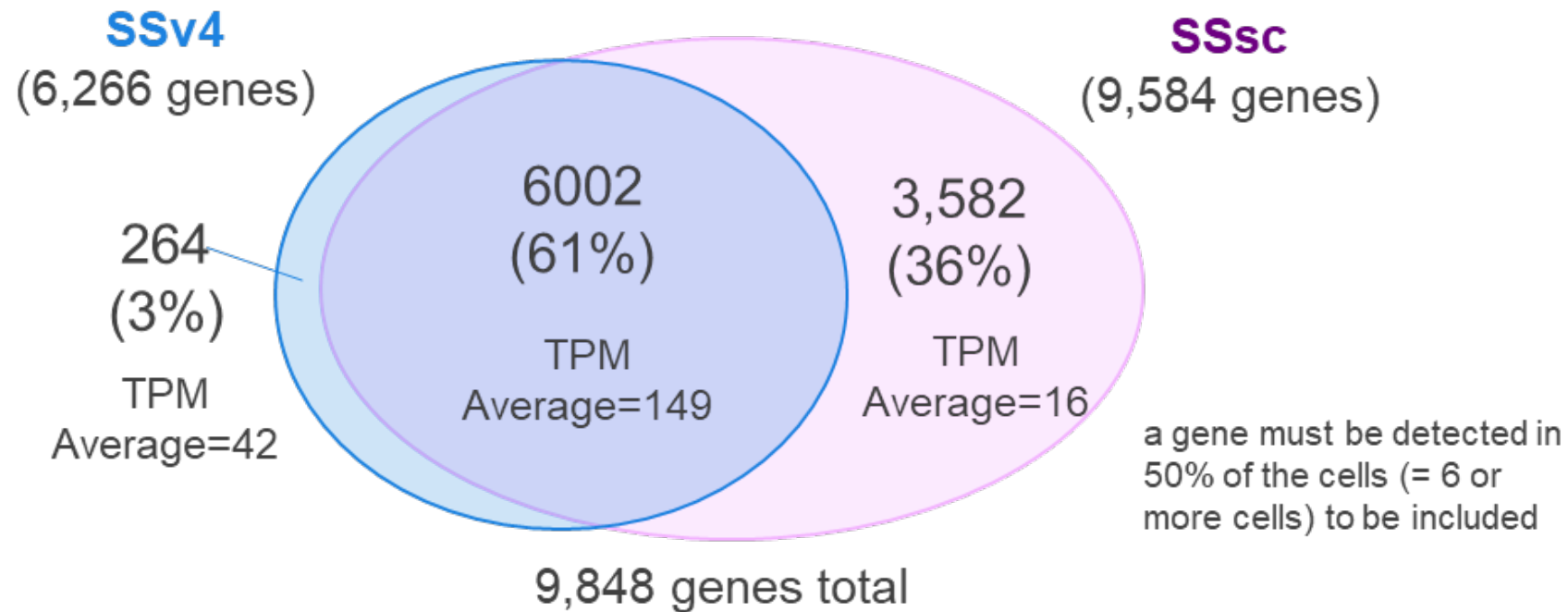
SMART-Seq Single Cell Kit (SSsc)

- Chemistry optimized for superior performance on single cells with very, very low RNA content
 - QC performed with 2 pg of mouse brain total RNA
 - Technical performance measured with immune cells (i.e., PBMCs)
- Robust full-length chemistry
- Higher cDNA yield with **fewer PCR cycles**
 - Can use a similar number of PCR cycles across various sample types, decreasing guesswork
 - Easier to process different sample types

The kit of choice for single-cell applications



More genes, fewer dropouts from single cells

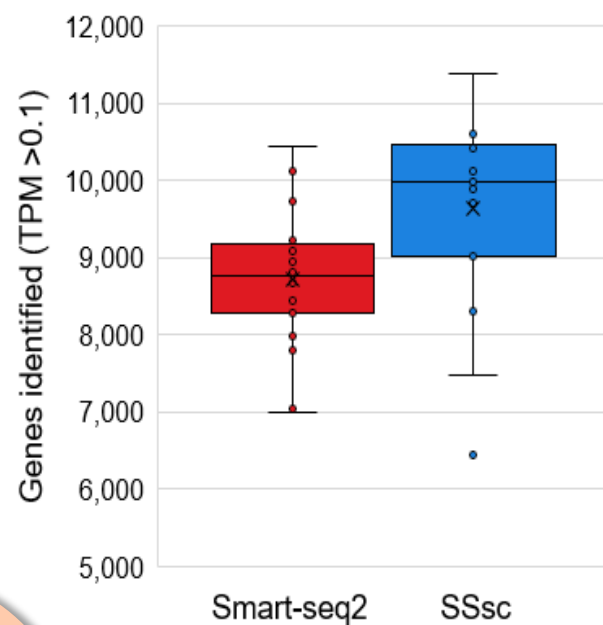
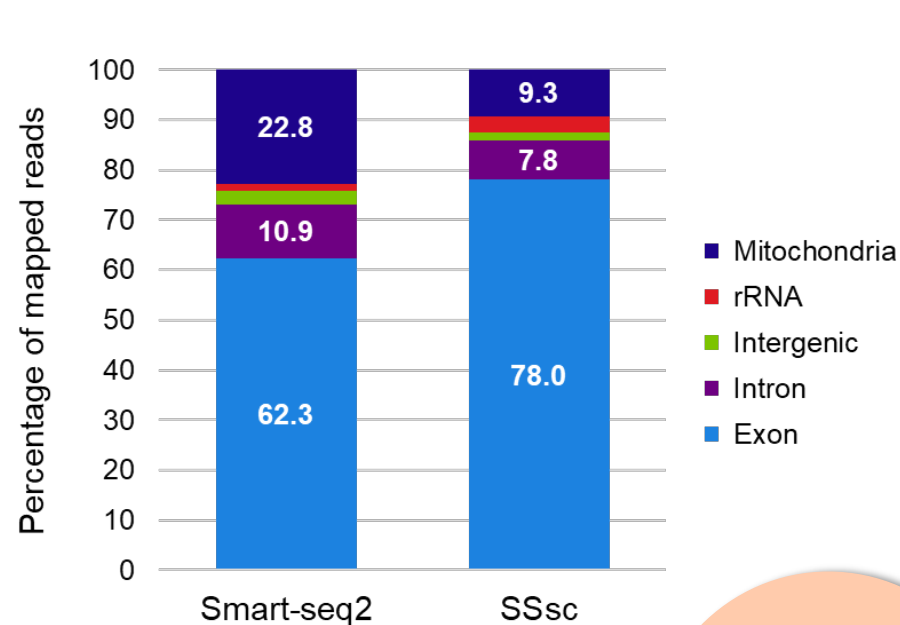


Get more
out of your
precious
samples

- 61% of the genes identified between both chemistries are identical
- SSsc identifies an additional 36% unique genes, particularly those with a low expression level

Data from lymphoblastoid single cells (GM12878)

SSsc provides unparalleled sensitivity

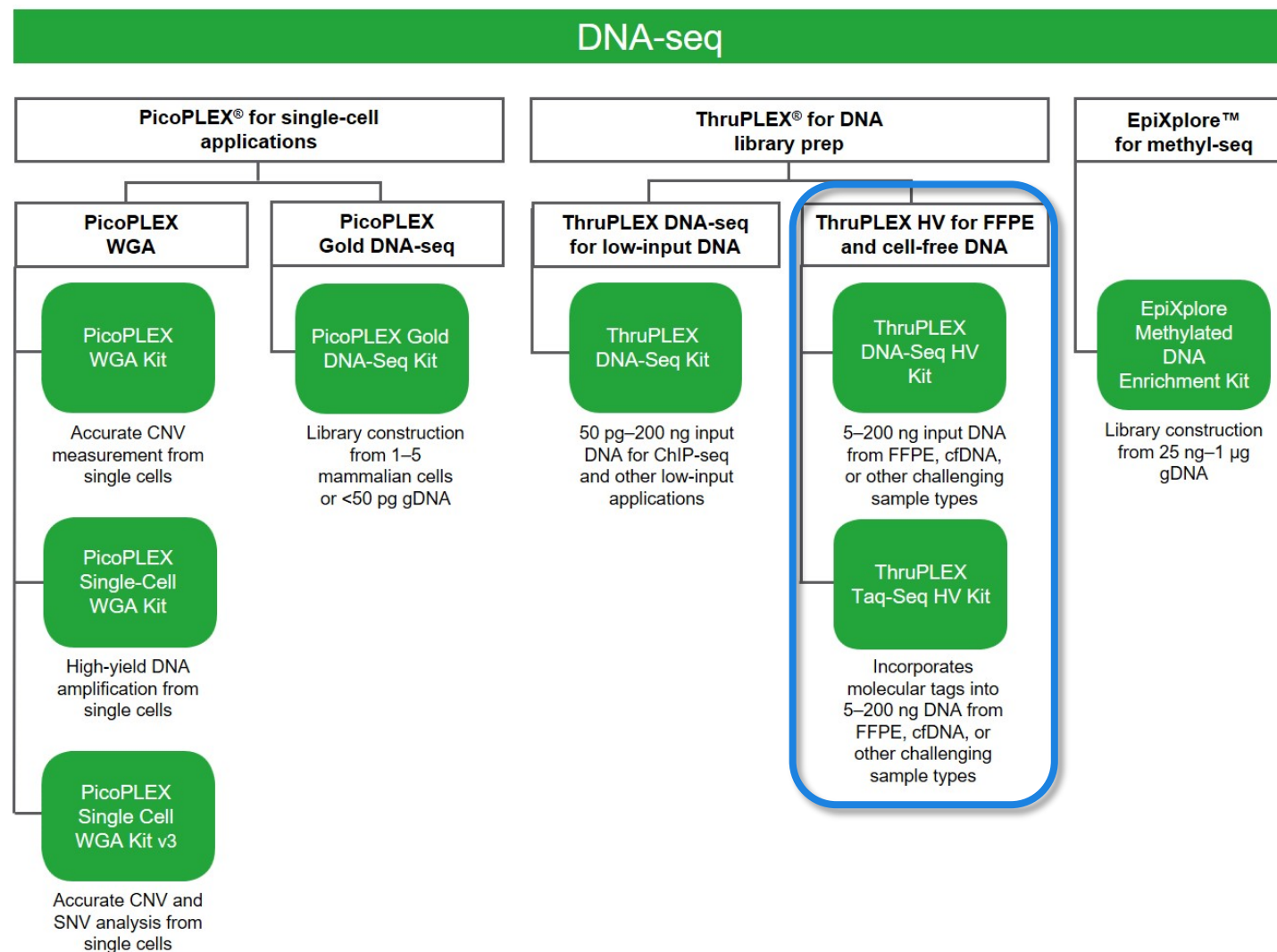


- SSsc efficiently delivers more valuable information
 - ~50% reduction in wasteful mitochondrial and rRNA reads
 - Higher percentages of useful exonic and intronic reads
 - Reduces sequencing costs
- ~20% more genes identified with SSsc in this study

Get more
from your
data

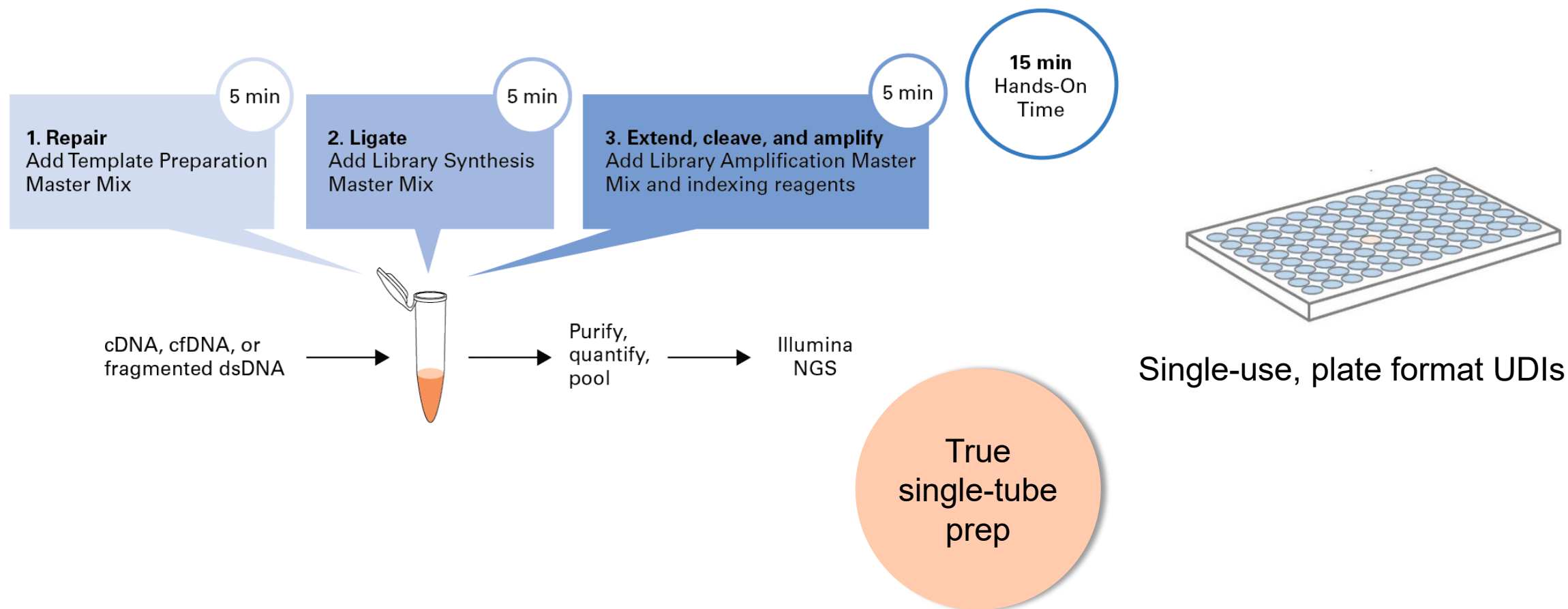
Data from lymphoblastoid single cells (GM12878)

DNA-seq

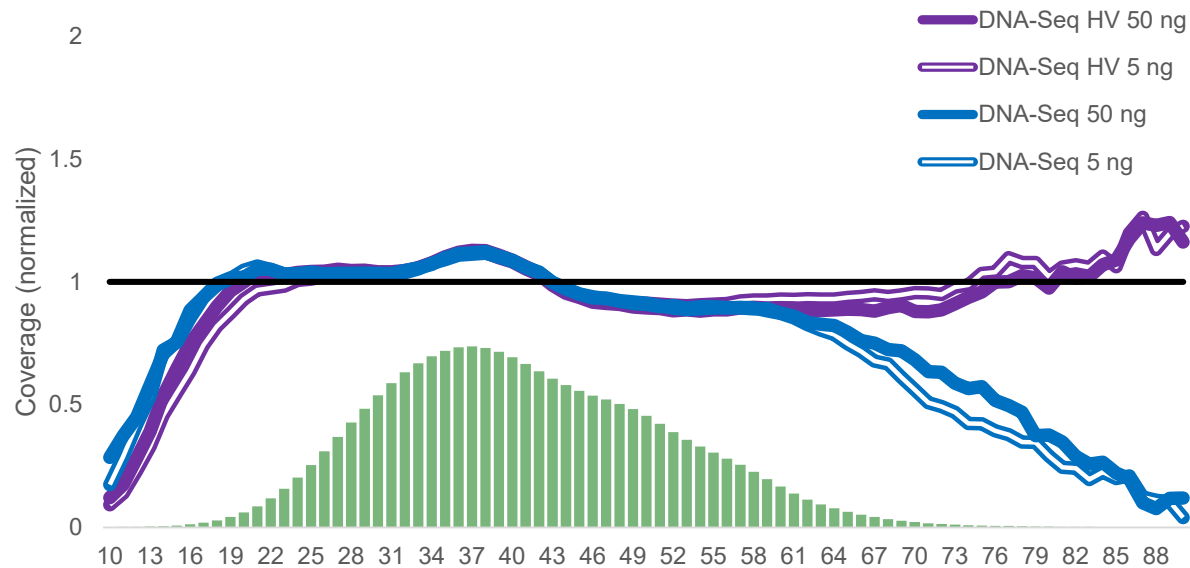


ThruPLEX HV DNA library preparation kits

ThruPLEX HV kits enable easier, faster, & more reliable library prep



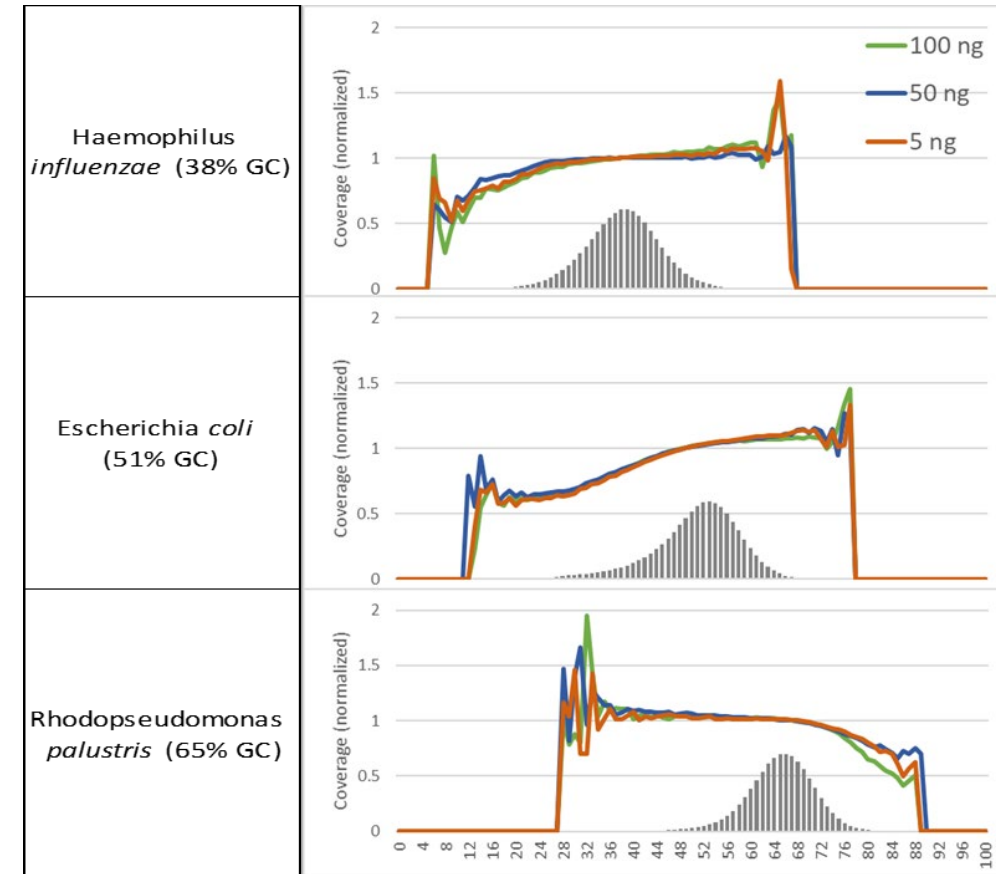
Excellent coverage uniformity



ThruPLEX HV shows outstanding coverage uniformity for:

- More efficiency for lower costs and higher multiplexing
- Better coverage of GC-rich and AT-rich organisms and difficult regions of the human genome

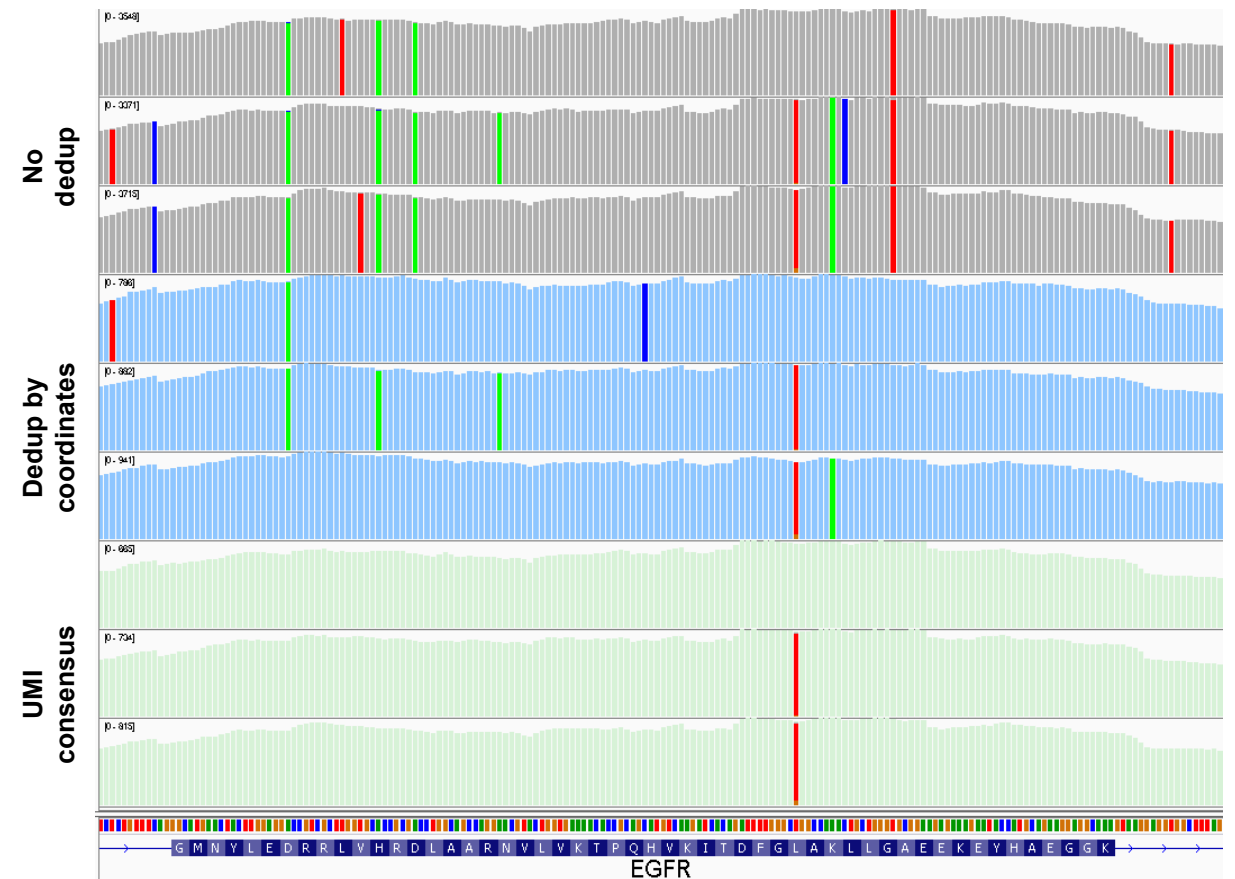
Save
sequencing
costs



Use the power of molecular tags to dampen sequencing noise

- ThruPLEX Tag-Seq HV includes well balanced, discrete molecular tags
 - Use duplicates to generate consensus and remove sequencing errors
 - Identify PCR duplicates for more accurate determination of allelic frequency

Accuracy
with
simplicity



Takara Bio activities at ABRF

- Automation
 - Seminar, 3:15 today, Innovation Theater: Single-cell application development with the ICELL8® cx system: One platform, endless possibilities
 - Poster 147, 11:30: Robust and sensitive detection of gene fusions using high-throughput SMART-Seq chemistry on the ICELL8 cx system
 - Poster 133, 11:30: Utilizing the Rheonix NGS OnePrep Solution to automate the Takara Bio ThruPLEX Tag-Seq HV library preparation kit
- Immune Profiling
 - Poster 134, 12:30: Efficient high-throughput sequencing for quantitative immune profiling using unique molecular identifiers
- DNA-Seq
 - Poster 146, 12:30: ThruPLEX HV: A Simplified System for Preparation of Molecular-Tagged NGS Libraries from FFPE and cell-free DNA
- RNA-Seq
 - Poster 131, 11:30: Pushing the limits of single-cell RNA-seq with SMART-Seq single cell technology
- Visit us at Booth #104

that's
GOOD
science!®