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PRECYSE LONG-READ NGS QC



- High Speed Atomic Force Microscopy (HSAFM)
- NGS QC, repeat expansion, protein DNA binding
- 100 bp to 500 kbp+ sizing
- Single Molecule 2D/3D resolution
- Direct physical imaging
- Single consumable chip for all applications
- No cold chain consumables
- Fast workflow and analysis times

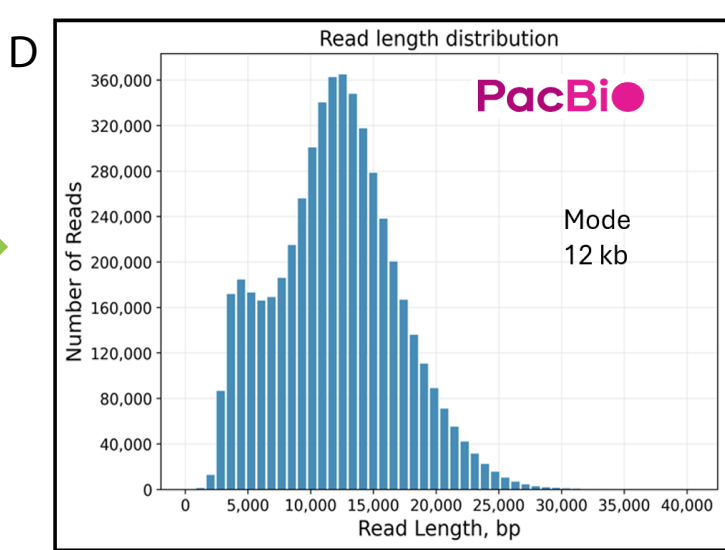
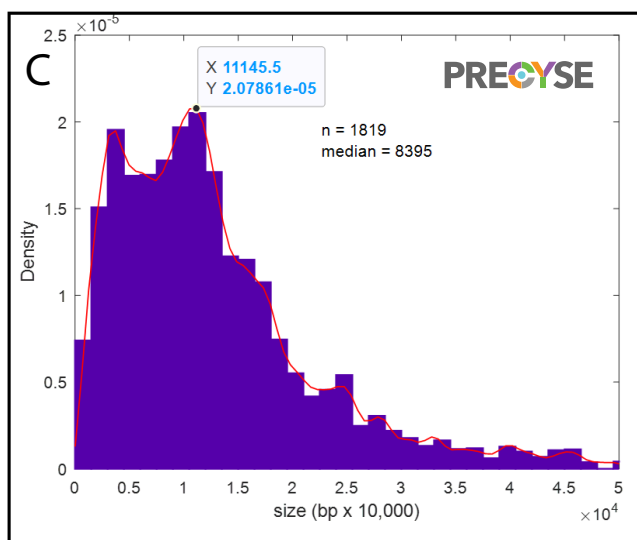
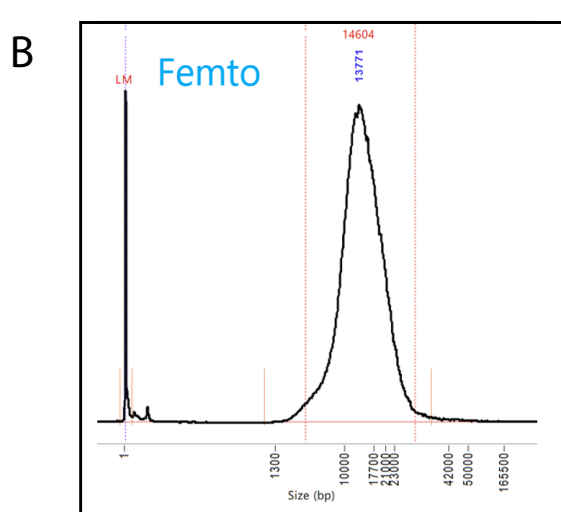


Figure. PacBio Revio Human DNA library, post-SRE, provided by Harvard University Bauer Center. (A) Example zoom-in image from PRECYSE showing DNA molecules and sizing in kbp. (B) Competitor Femto instrument analysis produced a uniform RFU peak at 13.8 kbp and mean of 14.5 kbp. (C) PRECYSE analysis of 1819 molecules generated 2 modes, 4 kbp and 11.1 kbp. (D) PacBio Revio read length histogram results generated 2 modes at 4.5 kbp and 12 kbp. PRECYSE sizing closely matched the PacBio read histogram and both sizing modes. The smaller molecule population is completely missed by Femto analysis, an example of a PacBio library that incorrectly passed electrophoresis sizing QC.

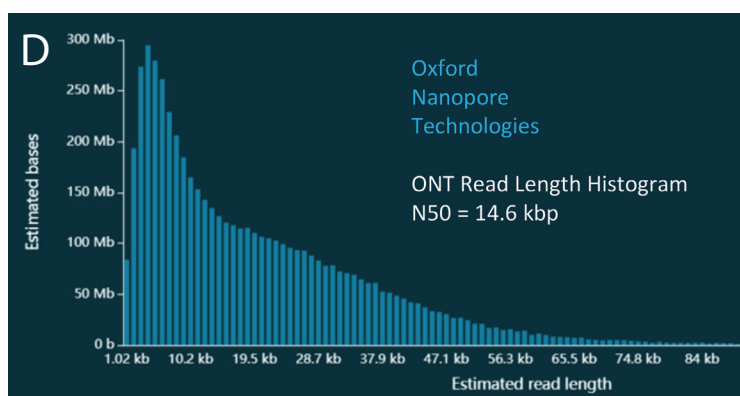
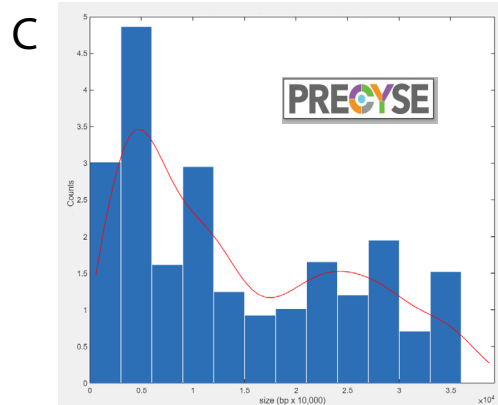
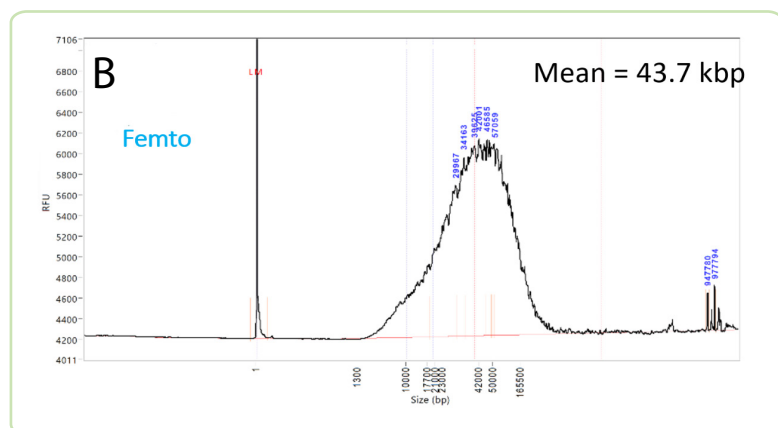
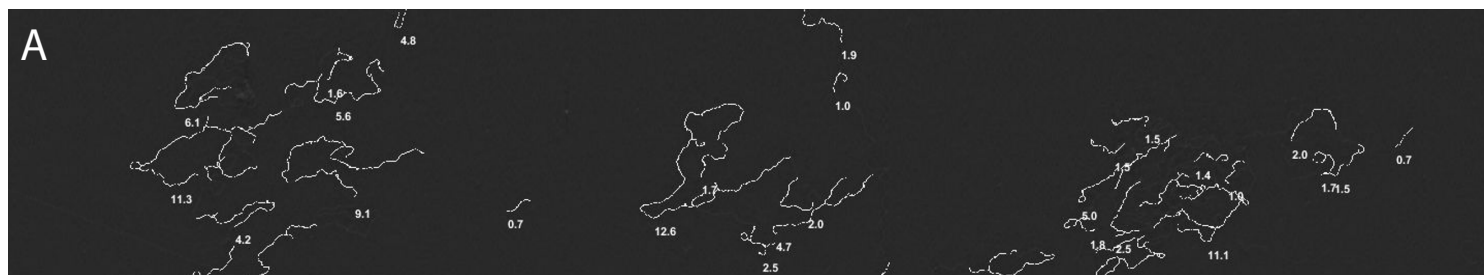


Figure. Oxford Nanopore (ONT) human DNA library provided by the Broad Institute. (A) Example molecules from PRECYSE scan with analyzed sizes (kbp). (B) Competitor Femto analysis produced RFU mean of 43.7 kbp. (C) PRECYSE analysis of 41 molecules generated a mean of 12.2 kbp. (D) ONT sequencing read results produced a N50 of 14.6 kbp. Better correlation of PRECYSE sizing to sequencer output was observed, while Femto electrophoresis analysis grossly overestimated true sizing.



NGS QC VALUE PROPOSITION¹



Company	XEVIZIA	Competitor A			
Technology	HSAFM	Etched Capillary Gel	Vertical Mini-Gel	CE	Pulse Field CE
Instrument	PRECYSE	BioA	TS	FA	Femto
Sequencer Type Supported	Short & Long	Short	Short	Short	Long
Max Throughput Per Consumable Run	1-96	10-12	16	12, 48, 96	12
Max sensitivity ³	Single Molecule (0.1 ag) ²	5 pg	10 pg	10 pg	0.1 pg
Speed/sample ³	1-10 min	3-4 min	1-2 min	1-2 min	6-15 min
Consumable Cold Chain, Short Expiration	No	Yes	Yes	Yes	Yes
Multiple Kits Needed for QC	No	Yes	Yes	Yes	Yes
Sizing Markers Required	No	Yes	Yes	Yes	Yes
Quant. Accuracy & Precision	5-10%	5-20%	10-25%	15-30%	25%
Sizing Accuracy & Precision	1-5%	5-10%	5-15%	2-20%	15-20%
Upper Limit of Sizing	500 kb+	12 kb	20-40 kb	50 kb	165 kb

¹ Technical information sourced from vendor materials available through public sources

² Based on 1x 100 bp DNA molecule

³ Best possible from published vendor kit specifications. Range based on sample type and # molecules analyzed for PRECYSE. ~1 min short-read, ~6 min long-read, ~12 min UHMW.

⁴ Vendor ranges as published for various kit types. PRECYSE range based on application (faster for smaller molecules)