GERMLINE VARIANT DETECTION WITH THE ONSO SYSTEM

Bringing short-read sequencing accuracy to the next level

Powered by sequencing by binding (SBB™) chemistry, the PacBio® short-read Onso™ platform delivers extraordinary base-calling accuracy (90% of bases at ≥Q40), setting a new standard in genetic research. This remarkable accuracy instills a new level of confidence in sequencing data and improves the ability to characterize challenging genetic variations through genome-wide and targeted approaches.

Where conventional short-read methods fall short, the Onso system resolves low-complexity, highly repetitive regions. This precision generates fewer false positive calls, resulting in more error-free exomes and genomes as well as increased biological insights.

Your advantages with the Onso system

- Run short-read applications with Q40+ base-calling accuracy
- Higher resolution of homopolymer regions
- A benchtop solution for mid-throughput applications (e.g., panels and exomes)
- Seamless integration with existing short-read sequencing ecosystems

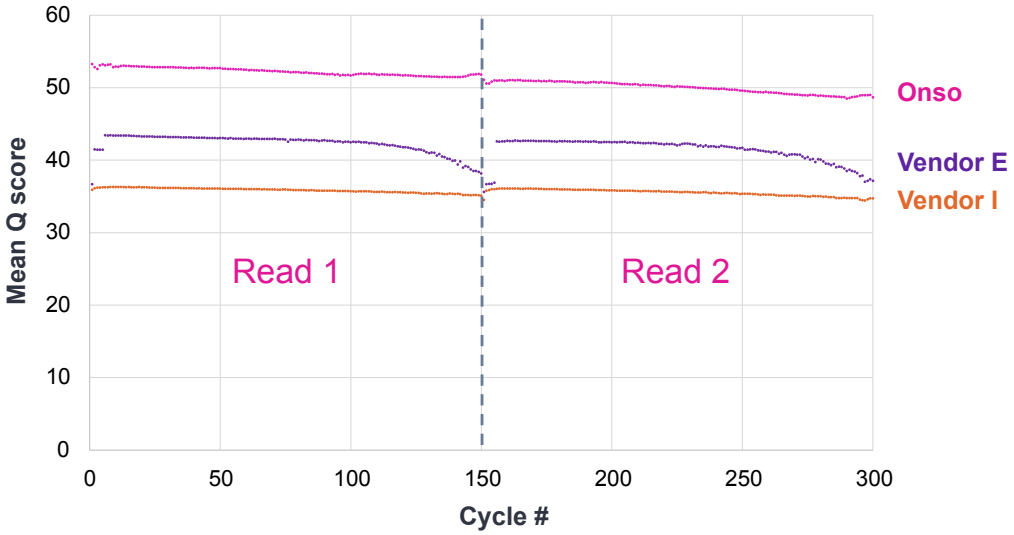

Figure 1. Mean Q score per cycle for a 2×150 whole genome sequencing run on HG002 demonstrates the superior read accuracy of the Onso system vs two on-market short-read platforms.

A closer look at extraordinary accuracy

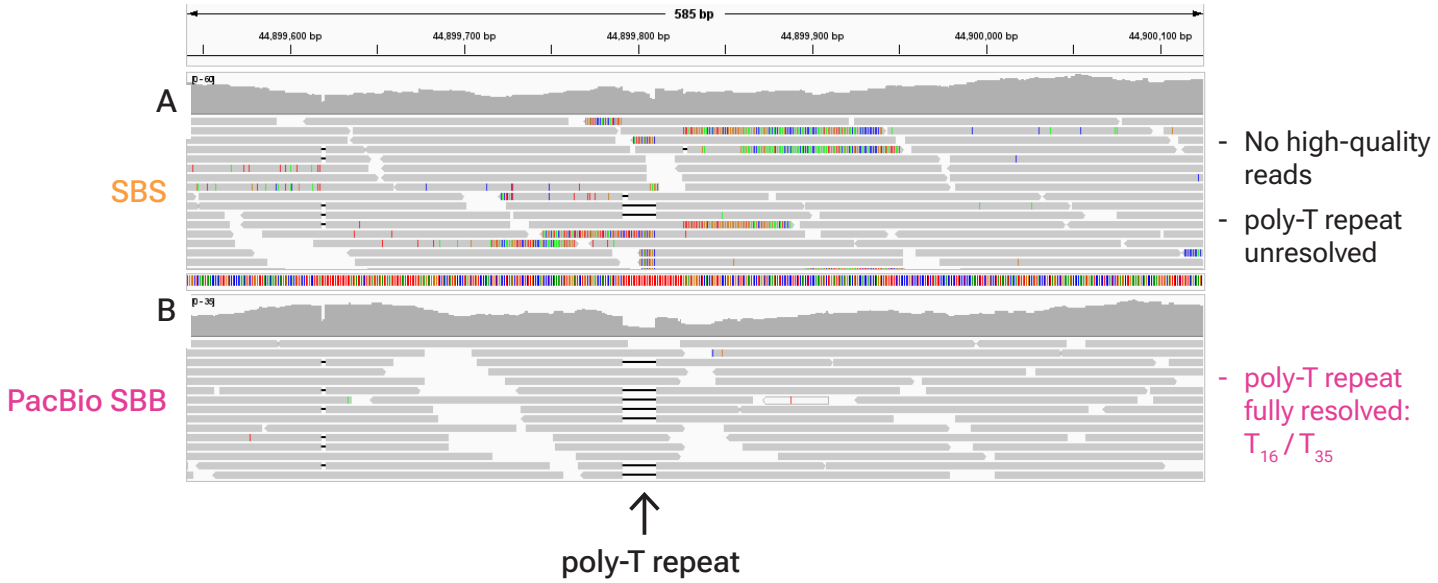

Figure 2. The Onso sequencing system produces near-perfect reads through the variable poly-T region within the *TOMM40* gene. A) Sequencing-by-synthesis (SBS) was unable to fully resolve the low-complexity region, with many false-positive calls. B) SBB sequencing on the Onso platform more comprehensively sequenced and confidently resolved this region, resulting in a call of T16 vs the original estimate of T35.

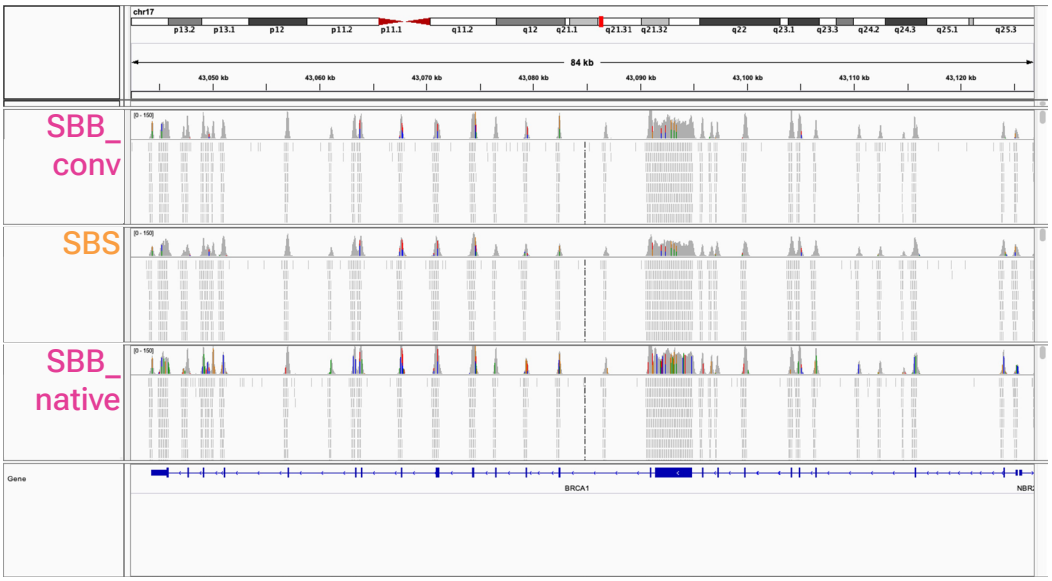

Figure 3. *Twist Exome 2.0* sequencing data of the *BRCA1* gene with three different short-read methods: a converted library (Onso S1), a standard SBS library, and native Onso library prep library (Onso S2). Both S1 and S2 samples were sequenced on Onso at 2×100 bp at 60× mean depth.

Learn more about the Onso demo data: pacb.com/datasets

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