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South Korea selects PacBio HiFi Technology for National Pangenome Project

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More than 1,000 Korean genomes to be sequenced for global reference standards



PacBio, a leading developer of high-quality, highly accurate sequencing solutions, has announced that its HiFi sequencing technology has been selected as the primary platform for the Korean Pangenome Reference Project, a landmark national initiative led by the Korea Disease Control and Prevention Agency (KDCA), National Institute of Health (KNIH).

The project will generate the first large-scale, telomere-to-telomere quality reference genomes representing the Korean population and integrate the data into the global Human Pangenome Reference Consortium (HPRC). By building a more inclusive and comprehensive reference, the initiative is expected to accelerate discovery of population-specific variants, help improve insights into unexplained diseases, and support the development of precision diagnostics and therapies.

The Korean Pangenome Project was announced by KNIH on September 5, 2024, as a part of a nationwide commitment to capture the country's genetic diversity. Following a 2024 pilot that recruited 200 researchers and academic participants, the program is now expanding to include members of the public, with a target of sequencing more than 1,000 whole genomes.

PacBio will provide an integrated sequencing solution across the workflow including:

- HiFi whole-genome sequencing (WGS): delivering highly accurate long reads for more than 1,000 anticipated participants
- Kinnex full-length RNA analysis: enabling precise transcriptome profiling
- CiFi technology for chromosome-scale analysis: detecting structural variants and complex genomic features

This marks the first national pangenome initiative to adopt PacBio's full technology suite, combining accuracy, completeness, and resolution across DNA and RNA.