Torrent Suite Assay Development Software for the Ion PGM Dx System

Secure, powerful, and streamlined next-generation sequencing for clinical research

The Ion PGM™ Dx System with Software Pack v5.0 or higher empowers your clinical laboratory with a combined-functions next-generation sequencing (NGS) platform, offering both the secure Torrent Suite™ Dx Software for *In Vitro* Diagnostic (IVD) use* and the Torrent Suite™ Assay Development Software** for greater system utility to help advance clinical research.

Key benefits for clinical research environments

- Combined-functions software offers multiple applications on a single NGS system, helping you better manage capital equipment budgets and limited laboratory space
- Audit trail functionality enables electronic record keeping of all actions made to samples as they are processed in the workflow
- Electronic signature capability offers assurance that data entry and sign-off are performed by authorized personnel only
- Reagent and chip tracking capabilities help minimize manual record keeping of consumable lot numbers, usage start, and expiration dates
- Automatic QC pass/fail reporting helps save time by enabling you to quickly assess the quality of sequencing before moving forward with further sample processing steps
- Compatibility with many LIMS solutions helps you integrate the Ion PGM Dx System into your lab with ease

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NGS is an indispensable tool, enabling the simultaneous interrogation of hundreds of genes and biomarkers to accurately and affordably generate genetic information. The Ion PGM Dx System delivers the speed and simplicity of the Ion Torrent™ platform, combined with key workflow advantages designed specifically for regulated laboratory environments and *in vitro* diagnostic applications.

Easy-to-use, streamlined software

Torrent Suite Assay Development Software achieves its unique flexibility and ease of use by integrating functionalities from two key Ion Torrent™ software products: Torrent Suite™ Software and Ion Reporter™ Software. By combining operating system features, as well as primary and secondary data analysis, Torrent Suite Assay Development Software has capabilities to run assays and analyze the resulting data (Figure 1). With Torrent Suite Assay Development Software, there is no need for clinical researchers to switch back and forth between two separate software products on separate servers—with the Ion PGM Dx System, all the software functionalities needed for clinical research are now integrated into one package (Figure 2).

More applications and preloaded run templates to advance precision genomics research

Torrent Suite Assay Development Software enables clinical researchers to run a broad range of preset run parameters to further their development and optimization efforts in numerous research application areas, such as germline and somatic DNA assays, RNA fusions, and more (Figure 3). With Torrent Suite Assay Development Software, users may analyze DNA or RNA from a wide range of sample types, including blood or other tissues; formalin-fixed, paraffin-embedded (FFPE) samples; bacterial cultures; and swabs. A number of commonly used run templates come preloaded in the Torrent Suite Assay Development Software (Figure 4). Users who need ultimate flexibility to design and optimize their own run templates can utilize the customization functionality of the “Generic Sequencing Application” file.

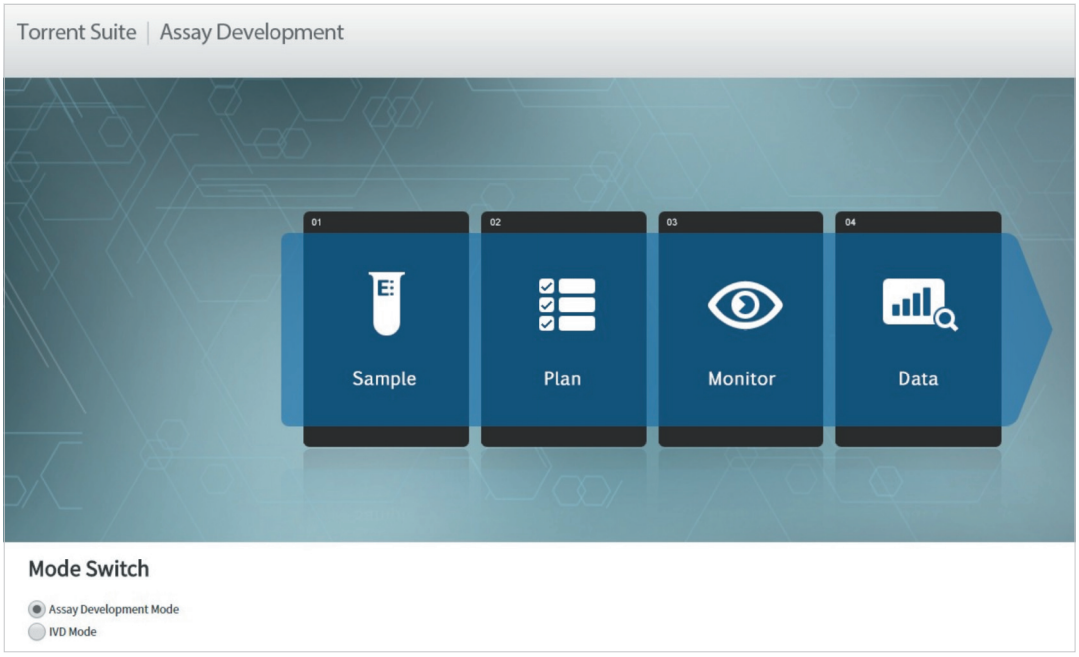

Figure 1. Assay Development Software front page with user login and mode switch functionality.

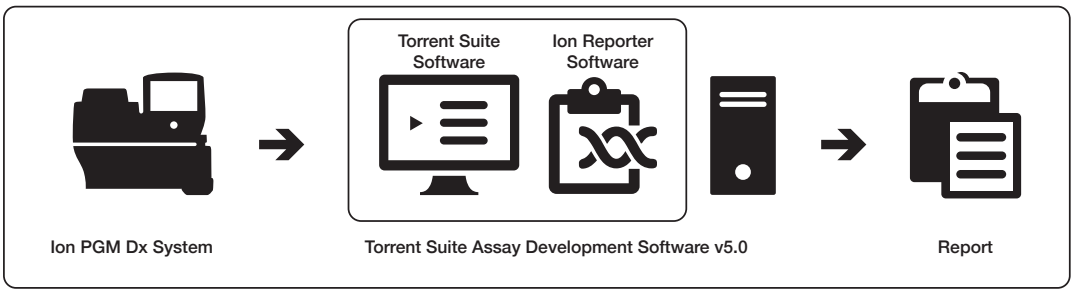

Figure 2. Streamlined workflow from sample sequencing to data analysis and reporting.

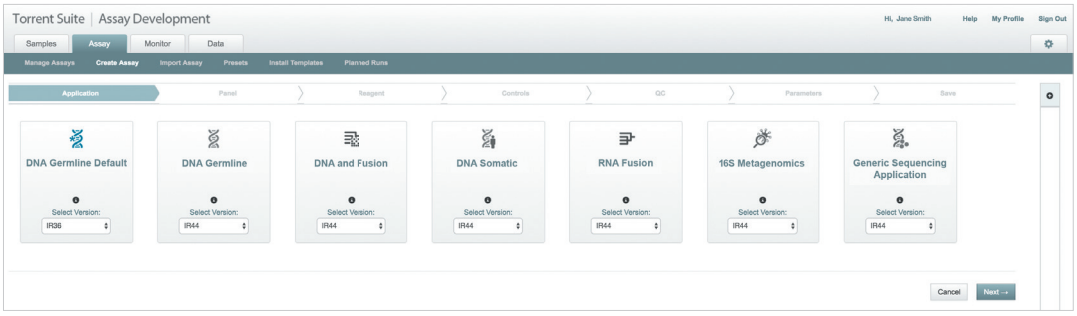

Figure 3. A variety of assay application templates.

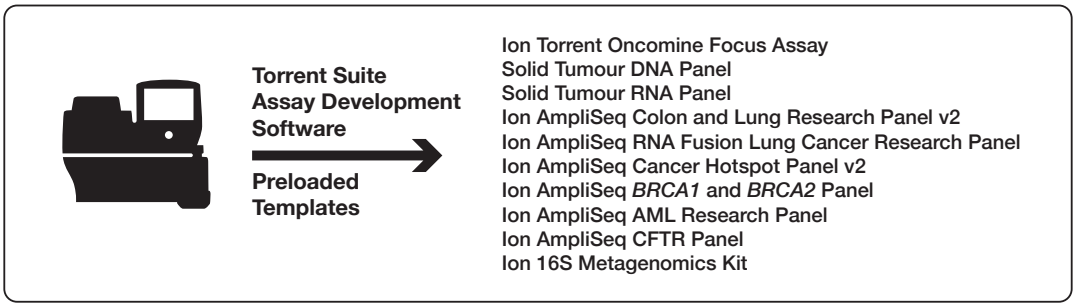

Figure 4. Preloaded templates available in Torrent Suite Assay Development Software.

A report for every sample

Torrent Suite Assay Development Software tracks each sample analyzed, automatically generating a report for every run. The report template is customizable, allowing clinical researchers to tailor report outputs to display exactly the information needed (Figure 5). Reports may contain details such as the sample ID, as well as its condition, type, source, collection time, and descriptions of tests performed on the sample. In addition, reports may show results of analyses, such as the presence or absence of variants, gene fusions, and CNVs.

Torrent Suite Assay Development Software is specially designed to streamline instrument setup and operation with subsequent data analysis. As such, it incorporates features that support a future transition to IVD mode, helping clinical researchers to organize important details from start to finish. Reports integrate electronic signature and audit trail features to assist clinical researchers with regulatory compliance or laboratory ISO accreditation requirements, and an automatic QC pass/fail feature helps maintain high performance standards. Torrent Suite Assay Development Software is also compatible with many laboratory information management systems (LIMS) to offer researchers streamlining solutions for data generation and analysis.

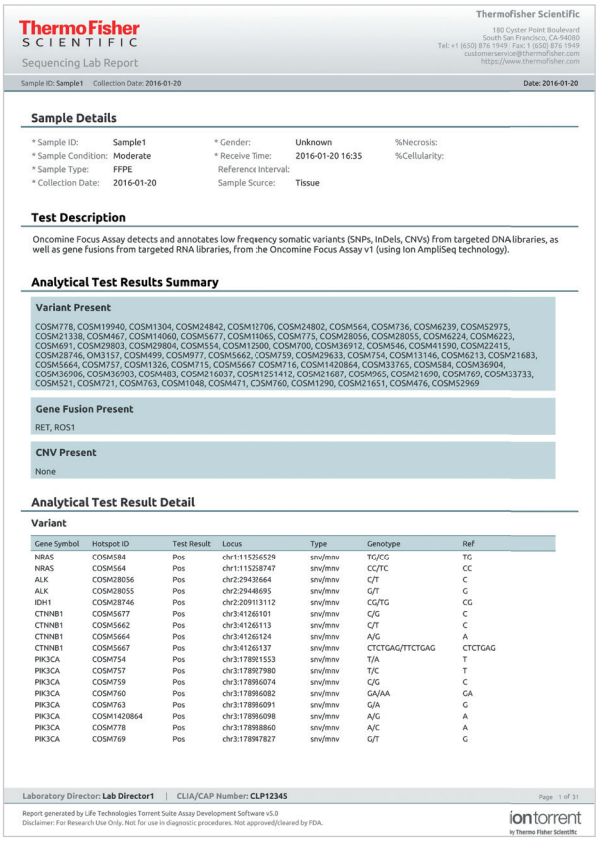

Figure 5. Customizable sample report output.

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Key report fields compatible with many LIMS systems:

- Sample ID
- Analysis type
- Sample type, source, and condition
- Collection time
- Audit trail
- QC pass or fail report
- Electronic signature

Consolidated power for the future of clinical research

Moving forward, NGS may enable clinical researchers in the development of new applications supporting the progression of precision genomics. The Ion PGM Dx System with combined functions offers the powerful efficiency of NGS analysis to molecular diagnostic and clinical research laboratories, and aims to provide a practical approach to better manage capital equipment budgets and limited laboratory space.

Ordering information

Product	Cat. No.
Ion PGM Dx System	**A25511**
System includes: Ion PGM Dx Sequencer Ion OneTouch Dx Instrument Ion OneTouch ES Dx Instrument Ion PGM Dx Chip Minifuge Ion Torrent Server with Ion PGM Dx Software Pack v5.0 Wireless Handheld 2D Barcode Scanner Ion PGM Dx System consumables Ion PGM Dx System Installation and Training Kit 1-Year Manufacturing Warranty (Parts & Labor)	

To learn more, go to **thermofisher.com/pgm-dx**

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* The Ion PGM Dx System is for *In Vitro* Diagnostic Use. Available in the US and other selected countries globally. Please inquire with your Thermo Fisher Scientific representative for local availability.

** Torrent Suite Assay Development Software is For Research Use Only. Not for use in diagnostic procedures.

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