A new day for precision oncology
A new world of NGS

Explore the benefits of the Oncomine™ Precision Assay on the Ion Torrent™ Genexus™ System

Go from specimen to report in a single day with a hands-off, automated workflow. Combine your lab's immunohistochemistry (IHC) results with timely next-generation sequencing (NGS) insights to deliver a comprehensive report in one day.

- Mutations, copy number variations (CNVs), and fusion variant types across 50 key genes such as *EGFR*, *ALK*, *BRAF*, *ROS1*, *RET*, *KRAS*, *PIK3CA,* and *ERBB2,* among others
- One-day hands-free workflow with only two user touchpoints and 10 minutes of hands-on time*
- Only 10 ng of DNA/RNA or 20 ng of cfTNA required, allowing for more samples to be tested
- Compatible with formalin-fixed, paraffin-embedded (FFPE) tissue as well as liquid biopsy samples

Figure 1. The complete, end-to-end Genexus System workflow consists of a nucleic acid purification system, an integrated sequencer, and a reporting solution.*

*Specimen-to-report workflow will be available after the Genexus™ Purification System and integrated reporting capabilities are added in 2021.

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DNA hotspots					CNVs		Inter-genetic fusions		Intra-genetic fusions
AKT1	*CHEK2*	*FGFR3*	*KIT*	*NTRK3*	*ALK*	*FGFR1*	*ALK*	*NTRK1*	*AR*
AKT2	*CTNNB1*	*FGFR4*	*KRAS*	*PDGFRA*	*AR*	*FGFR2*	*BRAF*	*NTRK2*	*EGFR*
AKT3	*EGFR*	*FLT3*	*MAP2K1*	*PIK3CA*	*CD274*	*FGFR3*	*ESR1*	*NTRK3*	*MET*
ALK	*ERBB2*	*GNA11*	*MAP2K2*	*PTEN*	*CDKN2A*	*KRAS*	*FGFR1*	*NUTM1*	
AR	*ERBB3*	*GNAQ*	*MET*	*RAF1*	*EGFR*	*MET*	*FGFR2*	*RET*	
ARAF	*ERBB4*	*GNAS*	*MTOR*	*RET*	*ERBB2*	*PIK3CA*	*FGFR3*	*ROS1*	
BRAF	*ESR1*	*HRAS*	*NRAS*	*ROS1*	*ERBB3*	*PTEN*	*MET*	*RSPO2*	
CDK4	*FGFR1*	*IDH1*	*NTRK1*	*SMO*			*NRG1*	*RSPO3*	
CDKN2A	*FGFR2*	*IDH2*	*NTRK2*	*TP53*					

Figure 2. Oncomine Precision Assay gene list.

The Oncomine Precision Assay detects point mutations, CNVs, and fusions across 50 unique genes. Included are tumor suppressor genes such as *TP53*, cancer drivers, and resistance mutations. Content has been carefully curated to include all relevant targets and targets of emerging importance in precision oncology clinical research.

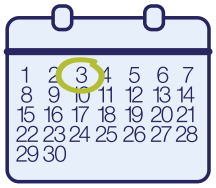
Key benefits of the Oncomine Precision Assay on the Genexus System

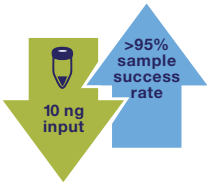
Unmatched ease of use with minimum hands-on time and no expertise required

The Genexus System's hands-off, set-up-and-go workflow makes NGS accessible even if your lab is new to the technology. It integrates and automates nucleic acid extraction and purification, library preparation, sequencing, and analysis reporting under a single software ecosystem. With less operational hands-on time (only 10 minutes with two touchpoints) compared to current technologies, the Genexus System can help improve every lab's productivity.

Single-day turnaround—get results in the same amount of time as other techniques, such as IHC

Other NGS technologies, as well as the traditional way of sending out/outsourcing samples, can take weeks to obtain results, which may delay answers. With the Genexus System, you can go from a biological specimen to a report in just one day. In addition, the system has the ability to analyze individual samples cost-effectively—reducing your need for batching, and empowering you to deliver results faster than ever.





Minimum sample input and maximum sample success rate

Tissue is still the issue in oncology research, with a large proportion of samples having very small amounts of tissue and/or being of inferior quality. Some NGS technologies require large amounts of sample, leading to more than one out of four samples being unusable for sequencing. The Oncomine Precision Assay, based on Ion Torrent™ AmpliSeq™ HD technology, requires only 10 ng DNA/RNA or 20 ng of cfTNA, resulting in more than 95% of samples producing sequencing results.

> "We have tested the Oncomine Precision Assay on the Genexus System, and we're able to detect a broad scale of different types of aberrations within one run, with less than one day of turnaround time. The simplicity of the workflow is such that it can be done by any lab, with minimum NGS expertise. All that's needed is one pipette and 10 minutes of hands-on time."
>
> —Researcher, IPATIMUP Laboratory, Portugal

Find out more at **oncomine.com** or contact your Thermo Fisher Scientific representative.

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