



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

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



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

ThermoFisher
SCIENTIFIC

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. OncoPrint Precision Assay gene list.

The OncoPrint 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 OncoPrint Precision Assay on the Genexus System

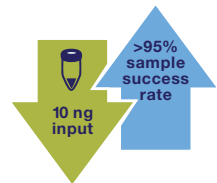
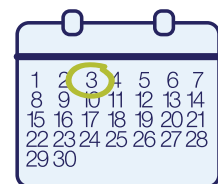


Unmatched ease of use with minimum hands-on time and no expertise required

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 OncoPrint Precision Assay, based on Ion Torrent™ AmpliSeq™ HD technology, requires only 10 ng DNA/RNA or 20 ng of cTNA, resulting in more than 95% of samples producing sequencing results.

“We have tested the OncoPrint 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 **oncoPrint.com** or contact your Thermo Fisher Scientific representative.

ThermoFisher
SCIENTIFIC