

Ion Chef instrument-ready assay now available—automated, hands-free library preparation and templating

The Ion Torrent™ Oncomine™ Focus Assay is a multibiomarker next-generation sequencing (NGS) assay that enables detection of variants in 52 genes relevant to solid tumors. This assay allows concurrent analysis of DNA and RNA to simultaneously detect multiple types of variants, including hotspots, single-nucleotide variants (SNVs), indels, copy number variants (CNVs), and gene fusions, in a single workflow (Figure 1).

Designed for use with the Ion GeneStudio[™] S5 systems, the Oncomine Focus Assay leverages the uniquely low sample-input requirements of Ion AmpliSeq[™] technology, enabling highly accurate and reproducible sequence analysis of formalin-fixed, paraffin-embedded (FFPE) samples.

The Oncomine Focus Assay offers:

- Analysis of over 1,000 variants across 52 genes
- Detection of relevant hotspots, SNVs, indels, CNVs, and gene fusions using a single workflow for DNA and RNA
- Results from even small samples, such as fine-needle aspirates or as few as 2–3 FFPE slides
- Fast turnaround times and throughput—3 days from sample to answer; 6 samples and 2 controls per run (lon 520™ Chip) with library preparation and templating on the lon Chef™ Instrument
- Reagents and consumables manufactured under enhanced QC in our ISO 13485-certified facility









Tumor sample DNA and RNA extracted from FFPE sample Library preparation Oncomine Focus Assay Next-generation sequencing Ion GeneStudio S5

Ion GeneStudio S5, S5 Plus, or S5 Prime System Post-sequencing analysis

Ion Reporter Software Oncomine

Reporter

Figure 1. Single workflow for DNA and RNA provides streamlined analysis of 52 genes. Library preparation is performed with the Oncomine Focus Assay using nucleic acids extracted from FFPE samples. NGS is subsequently performed. Ion Reporter™ Software helps to identify and prioritize variants, while Ion Torrent™ Oncomine™ Reporter helps create clear and concise reports that link biomarkers to relevant evidence.



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Efficient single workflow for analysis of multiple variant types

The Oncomine Focus Assay enables highly multiplexed analysis of both DNA and RNA in a single workflow to detect hotspots, SNVs, indels, CNVs, and gene fusions across 52 genes (Figure 2). This easy-to-use, streamlined workflow helps reduce the complexity inherent in performing sequential assays using a range of different products and technologies. Designed to analyze various target types, genes, and sample input types in a single run, the Oncomine Focus Assay can help shorten time-to-results and help reduce your risk of sample consumption prior to obtaining a meaningful result.

Intelligent NGS assay design

The biomarkers included in the Oncomine Focus Assay were selected by the oncology informatics team based on proprietary databases, peer-reviewed literature, and competitive and industry data, and confirmed with industry-leading pharmaceutical partners.

Optimized for even challenging FFPE samples

Based on Ion AmpliSeq technology, the Oncomine Focus Assay requires only 2-3 FFPE slides or as little as 10 ng of input DNA or RNA per reaction. This enables analysis of even small and inferior-quality samples, such as fineneedle aspirates. Alternative methods require numerous FFPE slides and hundreds of nanograms of DNA or RNA, making them less practical for routine analysis of FFPE tumor samples.

Categorized by somatic alteration type

Hotspot genes

AKT1, ALK, AR, BRAF, CDK4, CTNNB1, DDR2, EGFR, ERBB2, ERBB3, ERBB4, ESR1, FGFR2, FGFR3, GNA11, GNAQ, HRAS, IDH1, IDH2, JAK1, JAK2, JAK3, KIT KRAS MAP2K1 MAP2K2 MET. MTOR. NRAS. PDGFRA. PIK3CA, RAF1, RET, ROS1, SMO

Copy number variants ALK, AR, BRAF, CCND1, CDK4, CDK6, EGFR, ERBB2, FGFR1,

FGFR2, FGFR3, FGFR4, KIT, RAS, MET, MYC, MYCN, PDGFRA, PIK3CA

Fusion drivers

ABL1, AKT3, ALK, AXL, BRAF, EGFR, ERBB2, ERG, ETV1, ETV4, ETV5, FGFR1, FGFR2, FGFR3, MET, NTRK1, NTRK2, NTRK3, PDGFRA, PPARG, RAF1, RET. ROS1

Figure 2. Genes covered in the Oncomine Focus Assay for clinical research and future molecular diagnostic development.

Different configurations to meet the needs of any laboratory

The Oncomine Focus Assay is available in:

- 1. An Ion Chef Instrument-ready assay kit that enables automated library preparation and templating on the Ion Chef Instrument, reducing potential human error and hands-on time.
- 2. Manual library assay kits that are available in two sizes to accommodate varying sample throughput.

Ordering information

Product	Cat. No.
Flexible solutions	
Oncomine Focus Assay, Chef-Ready Library, 32 tests	A42008
Oncomine Focus Assay, Ion AmpliSeq Library, 48 tests	A29230
Oncomine Focus Assay, Ion AmpliSeq Library, 16 tests	A35957

For more information, contact your sales representative or go to thermofisher.com/oncomine

