



OncoPrint Comprehensive Assay v3

Empower your oncology research with proven Ion Torrent technology



The OncoPrint Comprehensive Assay v3 is available for use on the Ion GeneStudio S5 Systems with Ion Chef Instrument or for use on the Genexus System

The Ion Torrent™ OncoPrint™ Comprehensive Assay v3 is a member of the family of Ion Torrent™ OncoPrint™ assays for clinical cancer research. OncoPrint assays are multiple-biomarker assays based on next-generation sequencing (NGS). They have been adopted by leading cancer institutions around the world, have been used to profile thousands of samples in different translational and clinical research projects, and have consistently delivered reliable results.

OncoPrint Comprehensive Assay v3

- Content is based on the latest advances in clinical oncology research and also enriched for targets known to be associated with (or drive) childhood cancers
- Based on robust Ion AmpliSeq™ technology, this assay only requires 10 ng of DNA or RNA per pool, enabling analysis of even small and challenging formalin-fixed, paraffin-embedded (FFPE) samples

- Detects relevant SNVs, CNVs, gene fusions, and indels from 161 unique cancer driver genes in one streamlined workflow
- Optimized and verified for the Ion Chef™ Instrument and Ion GeneStudio™ S5 Systems with the Ion 540™ Chip, or the new Ion Torrent™ Genexus™ System with the Ion Torrent™ GX5™ Chip, both enabling full automation including automated library prep

“The requirement of a lower DNA input for the OncoPrint assay is a significant advantage when primary samples are becoming increasingly limited.”

John Bartlett, PhD
Director of Transformative Pathology Platform
Ontario Institute for Cancer Research

Hotspot genes				Full-length genes			Copy number genes		Gene fusions (inter- and intragenic)		
AKT1	ESR1	KIT	PDGFRB	ARID1A	FBXW7	PTEN	AKT1	FGFR4	AKT2	FGFR2	NUTM1
AKT2	EZH2	KNSTRN	PIK3CB	ATM	MLH1	RAD50	AKT2	FLT3	ALK	FGFR3	PDGFRA
AKT3	FGFR1	KRAS	PIK3CA	ATR	MRE11	RAD51	AKT3	IGF1R	AR	FGR	PDGFRB
ALK	FGFR2	MAGOH	PPP2R1A	ATRX	MSH6	RAD51B	ALK	KIT	AXL	FLT3	PIK3CA
AR	FGFR3	MAP2K1	PTPN11	BAP1	MSH2	RAD51C	AXL	KRAS	BRCA1	JAK2	PRKACA
ARAF	FGFR4	MAP2K2	RAC1	BRCA1	NBN	RAD51D	AR	MDM2	BRCA2	KRAS	PRKACB
AXL	FLT3	MAP2K4	RAF1	BRCA2	NF1	RNF43	BRAF	MDM4	BRAF	MDM4	PTEN
BRAF	FOXL2	MAPK1	RET	CDK12	NF2	RB1	CCND1	MET	CDKN2A	MET	PPARG
BTK	GATA2	MAX	RHEB	CDKN1B	NOTCH1	SETD2	CCND2	MYC	EGFR	MYB	RAD51B
CBL	GNA11	MDM4	RHOA	CDKN2A	NOTCH2	SLX4	CCND3	MYCL	ERBB2	MYBL1	RAF1
CCND1	GNAQ	MED12	ROS1	CDKN2B	NOTCH3	SMARCA4	CCNE1	MYCN	ERBB4	NF1	RB1
CDK4	GNAS	MET	SF3B1	CHEK1	PALB2	SMARCB1	CDK2	NTRK1	ERG	NOTCH1	RELA
CDK6	H3F3A	MTOR	SMAD4	CHEK2	PIK3R1	STK11	CDK4	NTRK2	ESR1	NOTCH4	RET
CHEK2	HIST1H3B	MYC	SMO	FANCA	PMS2	TP53	CDK6	NTRK3	ETV1	NRG1	ROS1
CSF1R	HNF1A	MYCN	SPOP	FANCD2	POLE	TSC1	EGFR	PDGFRA	ETV4	NTRK1	RSPO2
CTNNB1	HRAS	MYD88	SRC	FANCI	PTCH1	TSC2	ERBB2	PDGFRB	ETV5	NTRK2	RSPO3
DDR2	IDH1	NFE2L2	STAT3				ESR1	PIK3CB	FGFR1	NTRK3	TERT
EGFR	IDH2	NRAS	TERT				FGF19	PIK3CA			
ERBB2	JAK1	NTRK1	TOP1				FGF3	PPARG			
ERBB3	JAK2	NTRK2	U2AF1				FGFR1	RICTOR			
ERBB4	JAK3	NTRK3	XPO1				FGFR2	TERT			
ERCC2	KDR	PDGFRA					FGFR3				

List of gene targets in the OncoPrint Comprehensive Assay v3.

Intelligent NGS assay design

The content covers 161 of the most relevant cancer driver genes, including increased kinase domain coverage and representation of genes involved in DNA repair.

Optimized for challenging FFPE samples

Based on Ion AmpliSeq technology, the OncoPrint Comprehensive Assay v3 typically requires three or fewer FFPE slides or as little as 10 ng of input DNA or RNA per reaction. This enables analysis of small and inferior-quality samples, such as fine-needle 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.

OncoPrint informatics

The OncoPrint NGS oncology assay workflow provides a complete solution for NGS data analysis to go from hundreds of variants to a few relevant cancer drivers.

Ordering information

Product	No. of reactions	Cat. No.
For Ion GeneStudio S5 Systems		
OncoPrint Comprehensive Assay v3C (automated library preparation with the Ion Chef Instrument)	32	A35806
OncoPrint Comprehensive Assay v3M (manual library preparation)	24	A35805
	96	A36111

The OncoPrint informatics workflow enables you to get high-quality data, prioritizes and annotates driver variants, and comes complete with software that links relevant biomarkers to information available from labels, guidelines, and clinical studies for clinical/translational research support.

Different configurations to meet the needs of any laboratory

The OncoPrint Comprehensive Assay v3 has been optimized for throughput of eight samples on the Ion GeneStudio S5 Systems or six samples on the Genexus System. The assay is available in two configurations for use on the Ion GeneStudio S5 Systems: manual and automated library preparation (on the Ion Chef Instrument). The Genexus System combines prep, templating, and sequencing all in one system, with two user touchpoints and a single-day turnaround time.*

Product	No. of reactions	Cat. No.
For Ion Torrent Genexus System		
	16 DNA/RNA	
OncoPrint Comprehensive Assay v3 GX	32 DNA	A46296
	32 RNA	
OncoPrint Comprehensive Assay v3 DNA GX	16	A46294
OncoPrint Comprehensive Assay v3 RNA GX	16	A46295

* Specimen-to-report workflow will be available after the Ion Torrent™ Genexus™ Purification System and integrated reporting capabilities are added in 2020.

Find out more at thermofisher.com/ocav3