

# INSIGHTS OF THE FUTURE now

We're coming for you, cancer.



## Introducing the enhanced AVENIO Tumor Tissue CGP Kit V2

To ensure continuous improvement of our technology and products for our users, Roche has launched an updated AVENIO Tumor Tissue CGP Kit Version 2.

AVENIO Tumor Tissue CGP Kit V2 is designed to enable you to be at the forefront of scientific advancements. It brings to you comprehensive panel content and robust performance, while incorporating efficient workflows, higher throughput, up-to-date thoroughly validated bioinformatics algorithms, and successful incorporation of a new complex biomarker, pan-tumor HRD signature (HRDsig)<sup>2,8</sup> so you can get deeper genomic insights about solid tumors right in your lab – and advance discoveries in cancer research.



### Leverage the power of Roche and Foundation Medicine®

Experts in personalized medicine and comprehensive genomic profiling: 800+ peer reviewed publications, 1.3 million+ clinical samples reported.<sup>1,4</sup>



### Unlock high-quality meaningful Genomic Insights

Analyzes 335 relevant genes, four classes of genomic alterations, and complex genomic signatures including TMB, MSI, gLOH and the newly added HRDsig.<sup>2,3,8</sup>



### Utilize fast and convenient NGS workflows

One workflow from DNA extraction to data analysis. Fast 2-day library prep and short 1-hour ligation with a total 5-day turnaround time from DNA extraction to result generation.<sup>2,3</sup>

## Key features

Characteristics	AVENIO Tumor Tissue CGP Kit V1	AVENIO Tumor Tissue CGP Kit V2	Enhancements
Panel	324 genes (aligned with FoundationOne® CDx panel design)	335 genes (aligned with FoundationOne® CDx panel design) with 11 new genes <sup>2,4</sup>	More emerging and biologically relevant biomarkers <sup>4</sup>
Secondary analysis	FoundationOne® Analysis platform	More optimized bioinformatics via FoundationOne® Analysis Platform <sup>2,4</sup>	Improved variant calling, update of QC metrics criteria and larger baitset optimization <sup>2,4</sup>
Genomic insights	SNVs, InDels, REs and CNAs along with MSI, TMB, gLOH	SNVs, InDels, REs and CNAs along with MSI, TMB, gLOH and HRD <sup>2,4,8</sup>	New pan-cancer HRDsig based on a proprietary algorithm of Foundation Medicine trained on 600,000+ genomic samples <sup>8</sup>
Reagents	AVENIO reagents	REACH compliant AVENIO reagents <sup>4</sup>	Safer reagents <sup>4</sup>
Turnaround time	Manual 5 day TAT from DNA extraction to result generation	Manual 5 day TAT from DNA extraction to result generation with faster and convenient workflows <sup>2,4</sup>	Faster 2 day library prep, shorter 1 hour ligation, and improved DNA extraction quality and yield <sup>2,4</sup>
Sequencer		NextSeq 500/550/550Dx (in RUO mode) <sup>2,3</sup>	
Sequencing throughput	8 samples per flowcell	8-12 samples per flowcell <sup>2,4</sup>	Reduced sequencing costs due to increased multiplexing <sup>2,4</sup>
Data management	AVENIO Connect Software	Improved data flow management by AVENIO Connect Software <sup>3,6</sup>	HGVS annotation, UI/UX improvements and improved customer support <sup>3,6</sup>
Tertiary analysis		Optimized compatibility with navify® Mutation Profiler <sup>5</sup>	Seamless compatibility to enable tertiary analysis <sup>5</sup>

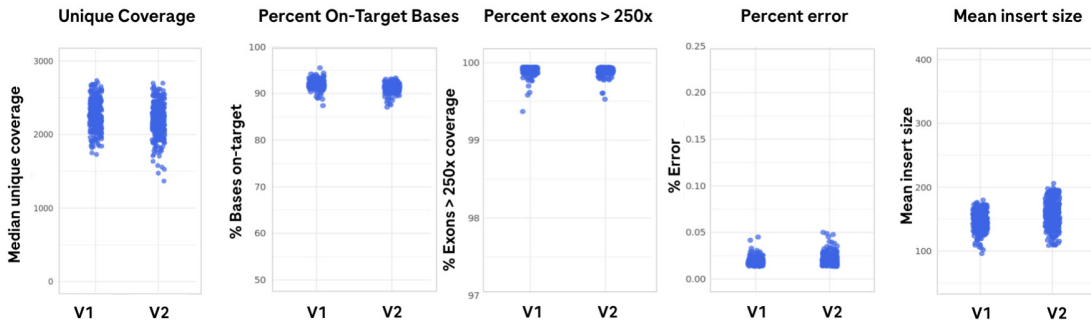
For Research Use Only. Not for use in diagnostic procedures.

\*navify® Mutation Profiler is CE-IVD in EU. For Research Use Only, not for use in diagnostic procedures in the US and other countries when used with the AVENIO Tumor Tissue CGP Kits. Tertiary analysis with navify® Mutation Profiler is not part of the AVENIO Tumor Tissue CGP Kit V2 and should be purchased as an add on.

HGVS: Human Genome Variation Society, TAT: Turnaround time

**AVENIO** Tumor Tissue CGP Kit V2  
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# Excellent key sequencing metrics were observed both with AVENIO Tumor Tissue CGP Kit V2 and V1



Libraries were prepared from 314 samples for 8-plex FFPE-derived DNA samples using AVENIO Tumor Tissue CGP Kit V1 and 316 samples for 8-plex FFPE-derived DNA samples using the AVENIO Tumor Tissue CGP Kit V2. The graphs show<sup>4,9-11</sup> sequencing QC metrics obtained through the FoundationOne<sup>®</sup> Analysis Platform. Results are from 60 million reads per sample on Illumina NextSeq 550 (8 samples per flowcell).

## High analytical variant detection across genomic alterations and signatures in both AVENIO Tumor Tissue CGP Kit V2 and V1

Strong agreement with reference method for variant detection of each alteration classification and complex signatures was observed both with AVENIO Tumor Tissue CGP Kit V2 and V1 when compared with the then current version of the reference method.<sup>3-5,10-12</sup>

Classification	Detected Variants/Signatures		
	AVENIO Tumor Tissue CGP Kit V1	AVENIO Tumor Tissue CGP Kit V2	
	8 - plex	8 - plex	12-plex
Short Variants	98.2%	99.7%	99.7%
Rearrangements	90.5%	90.8%	89.9%
CNA	94.8%	95.6%	99.8%
MSI high	100%	100%	100%
TMB high	100%	100%	100%
gLOH high	96.8%	97.1%	100%
HRDsig positive*	N/A	91.7%	91.7%

Sequencing libraries were prepared from 316-317 FFPE tissue derived DNA, using the AVENIO Tumor Tissue CGP Kit V2 (8 and 12 plex) and the AVENIO Tumor Tissue CGP Kit V1 (8 plex) and compared to the analytical performance with the reference method ( FoundationOne<sup>®</sup> CDx ). For this analysis, high or positive signatures were defined as follows: MSI-High  $\geq 0.0124$ , TMB-High  $\geq 10.0$  mutations/Mb, gLOH-Positive  $\geq 0.16$ , and HRDsig-Positive  $\geq 0.7$ . Samples with scores in the marginal ranges, MSI (0.0041-0.0124; "equivocal" status), TMB (8.0-12.0 mutations/Mb), and gLOH (0.14-0.18), were excluded.<sup>2,4,9-11</sup>

\*AVENIO Tumor Tissue CGP Kit V1 does not report HRDsig.

## Strong agreement between AVENIO Tumor Tissue CGP Kit V2 and V1

Strong agreement was observed in the expected variants as well as the expected samples detected for complex signatures with the AVENIO Tumor Tissue CGP Kit V2 when compared with AVENIO Tumor Tissue CGP Kit V1.<sup>2-4,9-11</sup>

Classification	Detected Variants/Signatures	
	AVENIO Tumor Tissue CGP Kit V2 (8-plex) vs V1	AVENIO Tumor Tissue CGP Kit V2 (12-plex) vs V1
Short Variants	98.5%	98.5%
Rearrangements	95.3%	94.4%
CNA*	92.8%	96.9%
MSI high	100%	100%
TMB high	100%	100%
gLOH high	100%	100%
HRDsig positive**	N/A	N/A

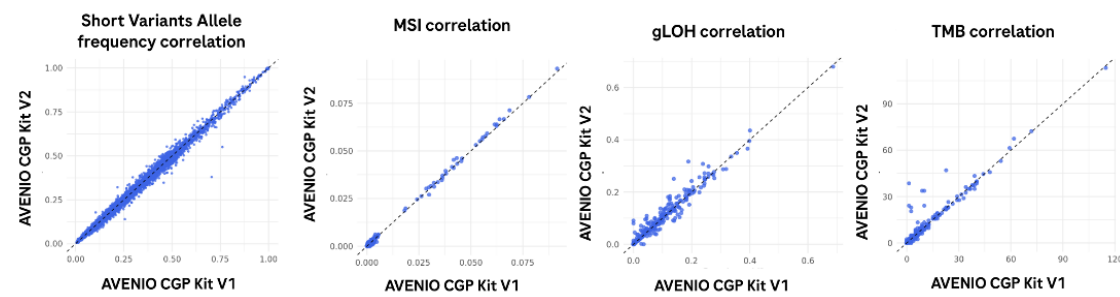
Libraries were prepared from 314 samples for 8-plex FFPE-derived DNA samples using AVENIO Tumor Tissue CGP Kit V1 and 316 samples for 8-plex and 231 samples for 12-plex FFPE-derived DNA samples using the AVENIO Tumor Tissue CGP Kit V2. <sup>2,4,9-11</sup>

AVENIO Tumor Tissue CGP Kit V2 was assessed for detection of AVENIO Tumor Tissue CGP Kit V1 variants and positive signatures.

\*AVENIO Tumor Tissue CGP Kit V2 detection of confident AVENIO Tumor Tissue CGP Kit V1 CNA calls

\*\*AVENIO Tumor Tissue CGP Kit V1 does not report HRDsig.

# Strong correlation in allele frequencies and signature scores between AVENIO Tumor Tissue CGP Kit V2 and V1



Libraries were prepared from 314 samples for 8-plex FFPE-derived DNA samples using AVENIO Tumor Tissue CGP Kit V1 and 316 samples for 8-plex FFPE-derived DNA samples using the AVENIO Tumor Tissue CGP Kit V2.<sup>2,4,9-11</sup>

## Backed by the trusted expertise and proven technology of Roche and Foundation Medicine, Inc.

The AVENIO Tumor Tissue CGP Kit V2 is part of Roche's broad CGP portfolio that offers flexible solutions and comprehensive support services to meet your research needs.



Proven  
Technology



Trusted  
Expertise



Comprehensive  
Portfolio

AVENIO Tumor Tissue CGP Kit V2 is for Research Use Only. Not for use in diagnostic procedures.

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TMB=Tumor Mutational Burden, MSI=Microsatellite Instability, gLOH=Genomic Loss of Heterozygosity, HRDsig=Homologous Recombination Deficiency Signature, QC=Quality Control, SNVs=Single Nucleotide Variants, Indel=Insertion and Deletions, REs=Rearrangements, CNAs=Copy Number Alterations, TAT=Turn-around Time

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The latest published performance data of the **AVENIO Tumor Tissue CGP Kit V2** can be found via this QR code.<sup>2</sup>

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