The AVENIO Millisect System
Optimize tumor yield with precise tissue dissection
Tissue dissection reinvented

Current tissue dissection methods can prove either too crude or too complex. The AVENIO Millisect System, employing a simple yet precise FFPE tissue dissection technology, breaks the mold – empowering you to extract the most clinically relevant information from challenging tumor samples.

Clean samples, clear profiles

Manual dissection can risk accidental contamination with adjacent normal tissue, and laser capture microdissection (LCM) can risk sample loss. The AVENIO Millisect System allows you to **optimize tumor yield** and improve sample recovery from difficult-to-dissect slides with precise dissection.¹,²

Uncover the whole story

In head-to-head comparisons, targeted dissection with the AVENIO Millisect System helped reduce false-negatives and identify gene mutations missed with manual dissection,¹,² enabling you to **maximize actionable information**.

A simple path to insight

The AVENIO Millisect System is designed to **improve laboratory workflow** for clinical molecular pathology. Its automated, digitally assisted dissection process and reporting require few hands-on steps, delivering workflow consistency² and traceability.
The AVENIO Millisect System

A benchtop instrument optimized for routine clinical use, the AVENIO Millisect System uses a proprietary tissue dissection technology to help you recover the areas of interest (AOIs) consistently, while avoiding unwanted adjacent tissue.

Consistent Annotation
Magnification, digital alignment and annotation of up to 4 slides provide consistent and reproducible tissue dissection.

Precise Dissection
Fine recovery of AOIs as small as 250 μm in diameter are achieved by the AVENIO Millisect Milling Tip.

Gentle Recovery
Gentle capillary action draws and expels dissected tissue into a collection tube in a hands-free process.

Digital Report
A PDF report that tracks sample IDs, annotations, pre- and post-dissection images and notes, is automatically generated.
Optimize tumor yield

Tumor heterogeneity or low cellularity can make it difficult to isolate clinically relevant cells without contamination from normal adjacent tissue. The AVENIO Millisect System helps you tackle complex tumor cases by improving sample recovery with precise dissection.

Reduce contamination and improve tumor yield

The AVENIO Millisect System allows users to capture complex tumors as small as 250 μm in diameter. This fine control enables users to increase the percentage of neoplastic cells captured in a sample relative to manual dissection.¹

Serial sections from a heterogeneous pancreatic adenocarcinoma sample with annotations for dissection with the AVENIO Millisect System (Figure A, green line) versus manual dissection (Figure A, black line). The indicated AOI in Figure B was judged to contain 70% to 80% neoplastic cells, while the area for dissection in Figure A, indicated in black, contained only 20% to 30% neoplastic cells, i.e. up to 4 times more contaminating normal adjacent tissue.¹
Maximize actionable information

Each cancer profile is unique, and developing a complete molecular portrait of a tumor can open doors to new treatment options. In comparison studies, targeted dissection of the AVENIO Millisect System has been shown to reduce false-negative results and uncover more actionable tumor information than manual dissection.\(^1\,\,^2\)

Reduce false-negative results

In tests in pancreatic tumor samples, the AVENIO Millisect System enabled detection of KRAS mutations missed with manual dissection.\(^1\)

Identify more gene variants

Tumor samples dissected with the AVENIO Millisect System yielded more single-nucleotide polymorphisms (SNPs), including clinically actionable variants, than whole tumor samples.

80\% (8/10) tumor samples from breast, colon, and prostate cancers had an increased number of mutations identified when the AVENIO Millisect System was used to dissect AOIs compared to whole tumor samples (Case #6 did not yield adequate DNA for sequencing). 70\% (7/10) of the cases had identified actionable hotspot mutations in the AOIs not found in whole tumor samples.\(^2\)
Improve laboratory workflow

The information contained in each tissue sample is complex, but the process of uncovering it should not be. Designed for routine clinical use, the AVENIO Millisect System can be readily adopted into existing workflows, minimizing demands on staff.

Achieve workflow efficiency, consistency and traceability

As opposed to cumbersome, uncontrolled manual dissection or complicated, time-consuming LCM, the AVENIO Millisect System brings precision and simplicity to molecular pathology laboratories around the world. Its automated, digitally assisted workflow ensures sample acquisition is efficient, consistent and traceable.

“We can now process cases that we couldn’t test before.”

— The Ottawa Hospital, Ottawa, Canada
We can now process cases that we couldn’t test before. — The Ottawa Hospital, Ottawa, Canada

“...digitally guided microdissection can enrich tumor content well beyond manual macrodissection...”
– Early Evaluation Program customer, USA

Catalog information

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*Optional Barcode Scanner for purchase

References: