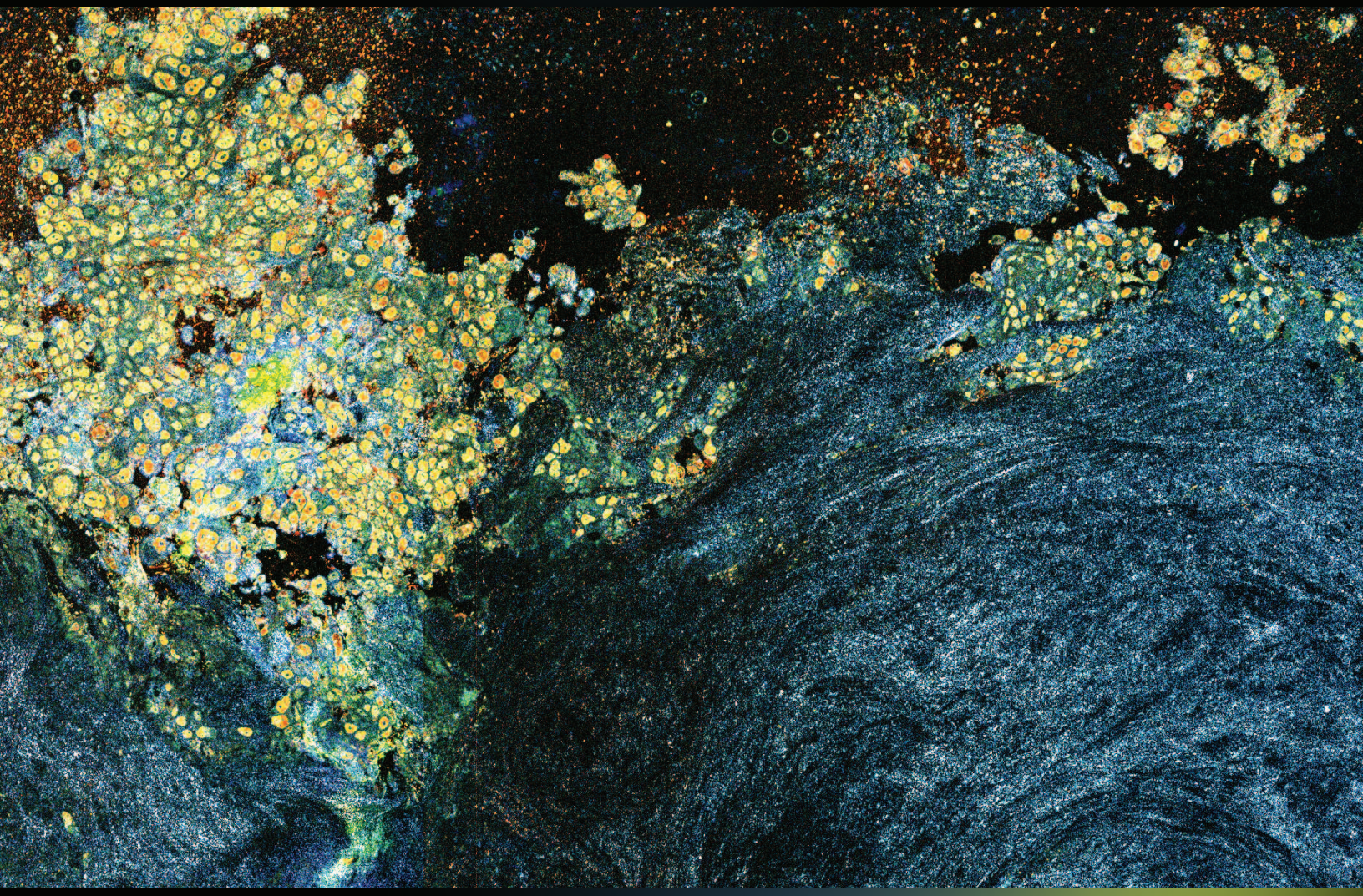
Van Gogh™

Metabolism Illuminated Diagnostics Improved



CellTivity SCIENTIFIC

Up to 1 in 5 Lung Cancer Patients Get the Wrong Diagnosis[1]

Cellular Activity

The pathology of all disease is atypical cellular metabolism.

- Since the advent of the PET scan, metabolic activity has been fundamental to modern medicine and how patients are treated.
- It's measured every day in applications such as glucose levels, oxygen consumption, and lactate production.
- Cancer cells accelerate energy production through aerobic glycolysis to support uncontrolled growth, a process first identified in the 1920s as the "Warburg effect." [2]

Routine Pathology

Why hasn't metabolic profiling advanced cancer diagnostics?

- Metabolic changes drive imaging like PET, but until now, assessing metabolism at the cellular level across the entire biopsy was not possible.
- Traditional pathology fixates and preserves tissue for later interpretation, destroying the metabolic activity in the process.
- Current rapid cytology (ROSE) methods also damage and destroy tissue during evaluation and can only assess a small portion of the biopsy.



The DCI Difference

Use real-time metabolic insight to confirm "Lesion in Tool".

- Use by Dynamic Cell Imaging™ (DCI), The Van Gogh Microscopy System captures cellular activity like a PET scan for biopsy tissue.
- Empowering proceduralists with point of care adequacy assessment to enhance collaboration with pathology and oncology.
- Improving in-room adequacy interpretation with or without the utilization of traditional ROSE.[3]

Scan to view in Action

Van Gogh™

Van Gogh Elevates Diagnostic Precision at the Point of Care

What It Does

Displays cellular activity in a biopsy using only light.

- Analyzes all types of biopsies (FNA, tissue, and cryo biopsies), providing a metabolic "heatmap" of intracellular activity.
- Delivers a real-time, non-destructive evaluation, no slicing or staining, preserving tissue for final pathology and sequencing.
- Empowers clinicians to assess biopsy adequacy in the procedure room.

How It Works

Advanced optical imaging reveals metabolic signatures histology can't.

- Based on Michelson's interferometry, DCI utilizes light-based imaging to capture intracellular movement in fresh excised tissue.[4]
- Like a virtual microtome, DCI can penetrate up to 150µm below the tissue surface without compromising the sample. (Figure 1)
- Overlays traditional morphology to enhance cellular contrast and highlight shape, size, and activity, to help identify abnormal cells.

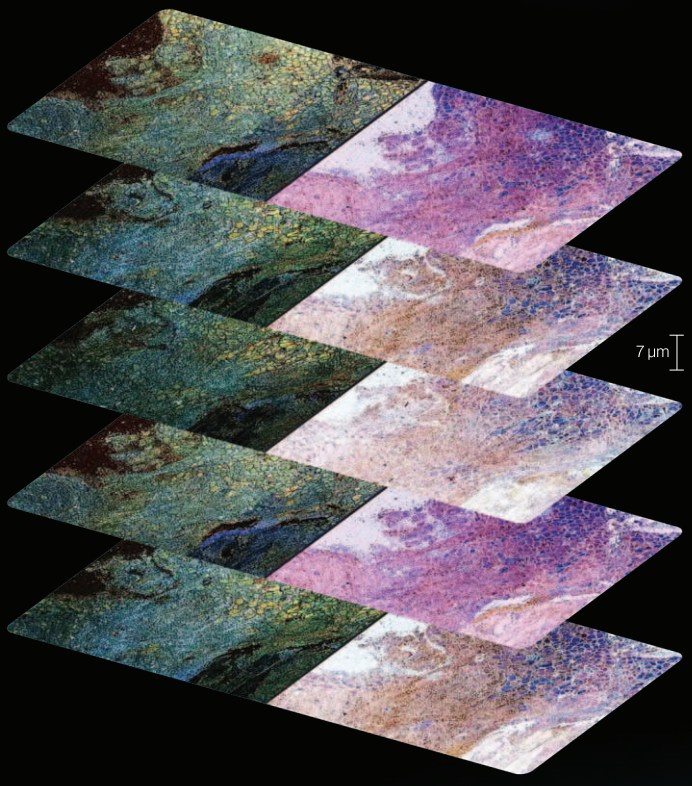


Figure 1: Slices at 1 µm Resolution with 7 µm Separation



Proven performance backed by data, built for decisions.

- 61% reduction in indeterminate biopsy readings improving diagnostic accuracy.[5]
- Non inferiority to ROSE with the added benefit of reducing procedure time by 21%.[5]
- 90% sensitivity to final pathology, compared to only 44% accuracy using ROSE alone.[3]
- 100% tissue preservation and adequacy for molecular profiling.[6]

Confirm “Lesion In Tool”

To empower the proceduralist with better diagnostic sampling.

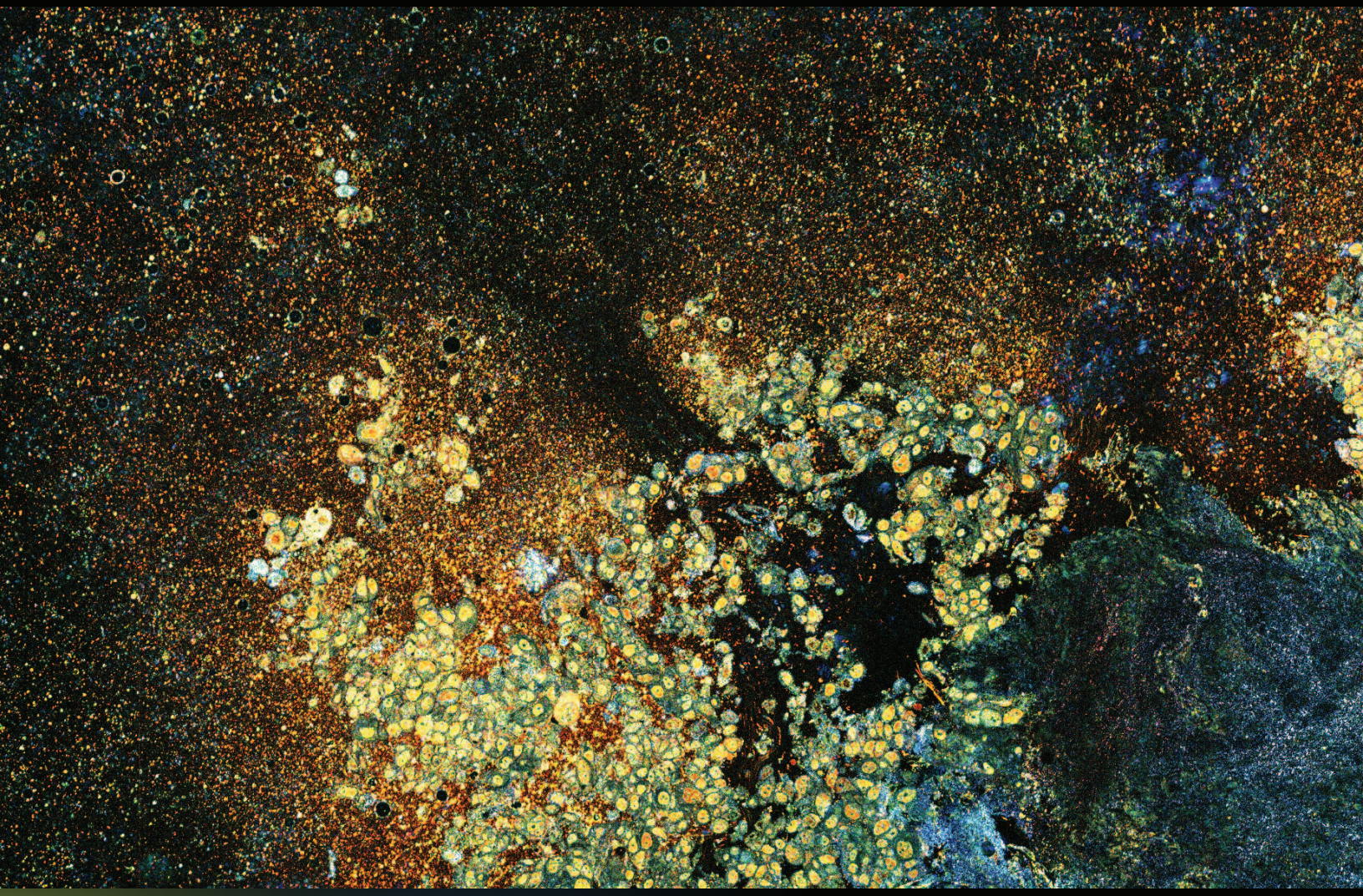
The pathology of all diseases, especially cancer, lies in atypical cellular metabolism. CellTivity Scientific’s real-time measurement and imaging of cellular metabolism has shown earlier, more accurate detection of cancer and other diseases.

To learn more about how to order please scan below to contact us:

CellTivity Scientific, Inc.

610 Lincoln Street
Waltham, MA 02451
(781) 472-2500
info@celltivity.com

Ref #	Item Description	UOM
VGMS-01	Van Gogh Microscopy System	1 EA
PBK-05	Van Gogh Patient Biopsy Kit - Single Use	BX / 5



Sources

1. Newman-Toker et al., Diagnosis 2020;8(1):67–84 (on diagnostic errors and the “Big Three”).
2. Warburg, Science 1956;123(3191):309–14 (on the origin of cancer cells).
3. Manley et al., Am J Respir Crit Care Med 2023;207:A4457 (intraprocedural lung biopsy assessment study).
4. Park et al., Biomed Opt Express 2021;12(10):6431–6441 (quantitative analysis of cell activity using dynamic full-field optical coherence microscopy).
5. Deitz et al., Dynamic Cell Imaging as an Alternative to Rapid Onsite Evaluation in Robotic Bronchoscopy: A Comparative Study (submitted abstract).
6. Nemeh et al., Use of the VanGogh™ Microscopy System to Assess for Intra-Operative Tissue Adequacy: Initial Experience (submitted ATS abstract, University of Chicago Medical Center).

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