

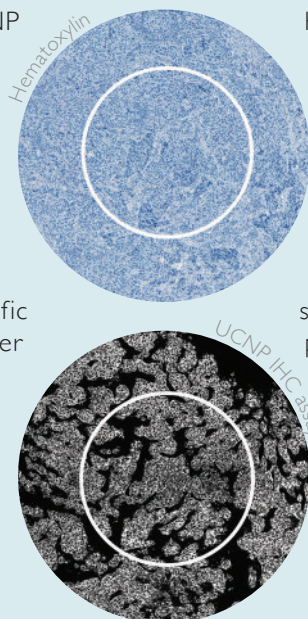
Digital Imaging – Upgraded

How Lumito's innovative labeling system offers fresh insights into tissue diagnostics

The team at Lumito is passionate about presenting an innovative new digital imaging technology. The ultimate driving ambition? To offer powerful tools that meet rapid, safe tissue diagnostics requirements. More specifically, Lumito wants to provide pathologists and researchers with images that form a more comprehensive, histology-based foundation for their analyses and clinical diagnostics. Andreas Johansson, CTO at Lumito, says the company is currently working hard on finalizing its first product for researchers – SCIZYS by Lumito. The plan is to launch during the first part of 2023. This WSI scanner, combined with Lumito's upconverted nanoparticle (UCNP) reagents, provides high-quality immunohistochemistry (IHC) imaging with unique qualities. The SCIZYS offering also enables imaging of tissue traditionally stained with hematoxylin in addition to the UCNP imaging modality.

Better technology means better results

Lumito's technology enables image capture with higher contrast, increased dynamic range, and reduced nonspecific binding. Through higher analysis quality and shorter analysis time, tissue diagnostics can achieve significant improvements. "It is possible to switch between visualizing the



morphology or our unique UCNP IHC labeling. The system's flexibility also allows visualization of both readings simultaneously, superimposed on the same image. This will provide more detailed information, but without the issues with overlap that traditional IHC technology provides," says Johansson.

Lumito has recently completed a successful preliminary study with Umeå University under the leadership of assistant university lecturer Daniel Öhlund (1).

The research group has mapped how the company's UCNP technology can improve our ability to visualize protein expression in pancreatic cancer. Lumito's imaging technology has provided additional insight by illustrating how specific proteins are secreted by cancer cells and penetrate the tumor stroma, Öhlund reports.

But that's just one study; Lumito has several others underway. For example, a proof-of-concept study is currently exploring

the potential of Lumito's UCNP to detect immune complexes and complement deposits in renal biopsies – a collaboration between University Hospitals Coventry and Warwickshire NHS Trust in the UK and a research team led by Kishore Gopalakrishnan. "With Lumito's technique, we hope the problem of background staining can be eliminated by clearer imaging of renal biopsy tissue," says Gopalakrishnan. There will also be the added advantage of being able to preserve the slides for review. In addition, being able to use formalin-fixed, paraffin-embedded tissue would potentially mean an additional biopsy core of fresh tissue will not be required."

If you're excited about the technology's potential, Johansson has an invitation. "We are always interested in getting in touch with more research groups to map out where our product brings the most value."

www.lumito.se/en

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Reference

1. T Lidström et al., "Extracellular galectin 4 drives immune evasion and promotes T-cell apoptosis in pancreatic cancer," [submitted] (2022).