Simpler biomarker workflows without compromising sensitivity: new white paper shows how researchers gain reproducible, quantitative IHC results in fewer steps

Lumito AB (publ) ("Lumito") and Atlas Antibodies AB ("Atlas Antibodies") today announce the publication of a new white paper demonstrating how researchers can simplify immunohistochemistry (IHC) workflows while maintaining high sensitivity, quantitative robustness, and reproducibility. The study shows that direct labelling of biomarkers when combining Lumito's SCIZYS platform with Atlas Antibodies' well-characterised primary antibodies can deliver performance comparable to traditional multi-step methods, with reduced assay complexity.

For researchers and drug developers, robust and reproducible biomarker data are essential for confident biological interpretation and downstream decision-making. Traditional indirect IHC workflows rely on multiple antibody incubation steps, which can increase hands-on time, variability, and background signal. The results presented in this white paper demonstrate that a direct labelling strategy can significantly simplify the workflow, without sacrificing data quality, when supported by a highly sensitive detection system and carefully characterised antibodies.

The study compares indirect IHC labelling strategies to direct labeling with Lumito's SCIZYS system, using the same primary antibodies from Atlas Antibodies in both workflows. The results demonstrate a strong alignment between the two approaches across multiple biomarkers and tissue types, confirming that simplified direct labelling can achieve quantitative and reproducible biomarker detection suitable for research and translational applications.

SCIZYS is Lumito's integrated imaging platform for highly sensitive, quantitative detection of protein biomarkers in tissue. It combines UCNP-based (upconverting nanoparticle) detection reagents with a dedicated whole-slide imaging system, enabling precise measurement of biomarker expression while effectively eliminating tissue autofluorescence. This allows researchers to generate high-contrast, quantitative data with improved objectivity, which is particularly valuable when analysing complex tissues such as brain and lymphoid tissue, or when detecting low-abundance targets including transcription factors like FOXP3 and immune checkpoint proteins such as PD-1.

> "This white paper is clear evidence of the strength of our collaboration with Atlas Antibodies and the performance delivered by the SCIZYS system. Enabling direct labeling without compromising sensitivity or data quality is an important breakthrough that both simplifies workflows and enhances reproducibility. We see great potential for this to create tangible value for both researchers and drug developers", says Sanna Wallenborg, CEO of Lumito.

Atlas Antibodies' contribution to the workflow is equally critical. The antibodies used in the study are developed for consistency and characterised across relevant tissue and cell-based models, supporting reliable target detection and reproducible results. This level of antibody performance enables direct labelling approaches to be applied with confidence, reducing variability and supporting robust quantitative analysis.

> “The results show how combining a high-sensitivity detection platform with well-characterised antibodies enables reliable biomarker analysis even in simplified IHC workflows. For researchers, this means fewer steps, reduced complexity, and greater confidence in the data generated. We see strong potential for this approach to support consistent and reproducible biomarker assessment across research and translational settings,” says Ingela Hofverberg, CEO of Atlas Antibodies.

The white paper is available on the websites of Lumito and Atlas Antibodies.

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About Atlas Antibodies
Atlas Antibodies is a Swedish life science company providing highly validated primary antibodies shipped direct to researchers worldwide. Built on the Human Protein Atlas project, the catalogue covers more than 78% of all human protein genes targets, and includes product lines such as highly-specific binding ApREST® antibodies and recombinant mouse monoclonals, as well as bench-top assay platforms MolBoolean and AtlasPlex; all with a focus on quality, reproducibility, and comprehensive validation to support reliable scientific discoveries. Atlas Antibodies is owned by Patricia Industries, part of Investor AB. Find out more at: www.atlasantibodies.com

About Lumito
Lumito specialises in medical technology and translational research in digital tissue imaging. Lumito offers a groundbreaking, highly sensitive imaging technique to locate and measure protein biomarkers in tissue samples using up-converting nanoparticles (UCNPs) through its patented research platform. The technology combines image data with precise biomarker detection, enabling images with higher contrast where irrelevant background information is filtered out. The technique can enhance the analysis of tissue samples by increasing objectivity, thereby contributing to research for more quantifiable diagnoses and optimised treatments. Lumito primarily focuses on drug development and digital pathology and is a spin-off from a research group at Lund University's Department of Atomic Physics and Laser Center. www.lumito.se/en/

The share is traded on NGM Nordic SME under the name LUMITO, and Mentor is Mangold Fondkommission.

Attachments
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