Tempus Announces the Clinical Launch of p-MSI, its MSI-High Predictive Algorithm for Patients with Prostate Cancer

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Tempus, a leader in artificial intelligence and precision medicine, today announces the clinical launch of p-MSI, a digital pathology algorithm using H&E whole slide images that is available with the company's xT assay for patients with prostate cancer. This offering aims to identify patients who may be more likely than the average patient with prostate cancer to have a tumor that is microsatellite instability high (MSI-H), and therefore potentially eligible for immunotherapy.

p-MSI is Tempus' first clinically available digital pathology algorithm, and its results must be confirmed through a tissue-based test. The model supports physicians in making an informed decision whether or not to pursue further testing that would confirm MSI status. MSI is a biomarker caused by a deficiency in DNA mismatch repair and is associated with response to immune checkpoint inhibitor therapy[1] and can also be associated with Lynch syndrome. In prostate cancer, MSI is uncommon and is not typically tested for, but has been reported at ~2-3% prevalence[2].

At the 2024 United States and Canadian Academy of Pathology's (USCAP) Annual Meeting, Tempus is presenting a study, titled "Robustness of Deep Learning Histogenomic Models to Tissue Area, Tumor Purity, and Scanner Type," which sought to evaluate the operating and specimen parameters required in order for an MSI prediction model to perform robustly in a cohort of prostate cancer biopsies. The study found that AI-powered models can predict which patients are more likely to be MSI-H based on whole slide H&E images.

"MSI-H status is a tumor agnostic biomarker of response to immune checkpoint inhibitor therapy, so we're excited to introduce this new model as part of our AI-enabled clinical offerings," said Nike Beaubier, MD, Senior Vice President, Life Science Pathology. "p-MSI joins our growing portfolio of models that support physicians in mapping out treatment plans that are specifically tailored to their individual patients."

About Tempus

Tempus is a technology company advancing precision medicine through the practical application of artificial intelligence in healthcare. With one of the world's largest libraries of multimodal data, and an operating system to make that data accessible and useful, Tempus provides AI-enabled precision medicine solutions to physicians to deliver personalized patient care and in parallel facilitates discovery, development and delivery of optimal therapeutics. The goal is for each patient to benefit from the treatment of others who came before by providing physicians with tools that learn as the company gathers more data. For more information, visit tempus.com.

[1]Kavun A, Veselovsky E, Lebedeva A, et al. Microsatellite instability: a review of molecular epidemiology and implications for immune checkpoint inhibitor therapy. *Cancers (Basel)*. 2023;15(8):2288.

[2]Abida W, Cheng ML, Armenia J, et al. Analysis of the prevalence of microsatellite instability in prostate cancer and response to immune checkpoint blockade. *JAMA Oncol*. 2019;5(4):471-478.