brecise

BRECISE USE CASE #1:
The PDE4D7 Biomarker – Advancing Active Surveillance in Prostate Cancer

Introduction

Prostate cancer is one of the most common malignancies among men. However, not all cases require immediate treatment. Active surveillance (AS) is a clinical strategy that enables men with low-risk prostate cancer to defer treatment while undergoing regular monitoring, thereby reducing unnecessary surgeries and radiation therapy.

Despite its advantages, current AS monitoring methods have limitations. Many patients undergo repeated biopsies, and some are misclassified, leading to either unnecessary treatments or delayed intervention for aggressive cases. To address these challenges, BRECISE will validate the PDE4D7 biomarker, aiming to improve risk stratification and ensure a more reliable assessment of patients suitable for AS.

PDE4D7: A Next-Generation Biomarker for Active Surveillance

PDE4D7 is a prognostic biomarker that measures RNA expression levels in prostate tissue and urine samples. Its expression is associated with tumor aggressiveness, allowing it to differentiate truly low-risk cancers from those more likely to progress.

As part of BRECISE's ASPRO-BIO study, researchers aim to validate PDE4D7 by:

- Conducting comprehensive genomic and transcriptomic analyses of tumor samples.
- Evaluating RNA sequencing-based models to improve risk classification for AS patients.
- Integrating PDE4D7 with clinical risk scores, such as CAPRA, for a multi-factorial assessment of prostate cancer progression.

Potential Impact on Patients and Healthcare

The successful validation of PDE4D7 within BRECISE could lead to significant improvements in prostate cancer management:

- More Accurate Risk Stratification – Ensures that only patients with truly low-risk disease remain on AS.
- Reduction in Unnecessary Biopsies – Limits invasive procedures, lowering patient burden.
- Lower Patient Anxiety – Provides greater confidence in surveillance decisions through objective biomarker-based assessment.
- Optimized Healthcare Resources – Enables better treatment prioritization, ensuring that high-risk patients receive timely intervention.

Next Steps

As part of BRECISE, the ASPRO-BIO study will recruit 700+ patients across multiple clinical sites to validate the PDE4D7 biomarker. Researchers will assess its ability to predict disease progression, refine AS protocols, and enhance personalized prostate cancer care.

By establishing PDE4D7 as a validated biomarker, BRECISE aims to set a new standard for active surveillance, ensuring safer, more effective monitoring of prostate cancer progression.

innovative health initiative

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