Diagnostic for ANCA-Associated Vasculitis Relapse

Technology #17-0046

ANCA-associated vasculitis (AAV) is an autoimmune disease primarily caused by neutrophil granule proteins encoded by the genes MPO and PRTN3. AAV is characterized by vascular inflammation, and patients cycle between disease remissions interrupted by relapses of active disease. Consequently, many patients are treated with maintenance immunosuppressive drugs that can have cumulative toxic effects including infertility and malignancies after long-term exposure. Therefore, insight about disease prognosis is vital to patient care, and important to determine whether a patient needs maintenance immunosuppressive treatments. Unfortunately the amount of circulating autoantibodies is not an adequate marker of remission or disease state, and there is no reliable biomarker to indicate a state of remission. DNA methylation in the PRTN3 promoter has been identified as an accurate indicator of remission status in AAV patients. Specifically, DNA methylation of PRTN3 was increased in patients in remission compared to those with activate disease. Importantly, patients with increased levels of DNA methylation had a greater probability of remaining in
remission. PRTN3 methylation is a valuable biomarker that can predict the likelihood of disease remission. Using this finding will allow physicians to better understand the disease status of their patients and ultimately make better treatment decisions, such as whether or not maintenance immunosuppressive therapy is necessary. Having a reliable biomarker can significantly improve the treatment for AAV patients.

Advantages:

• Methylation state of PRTN3 is a novel biomarker for AAV disease status
• Can inform clinicians of disease status of patients, predict the likelihood of stable disease remission, and enhance patient treatment
• Can be useful in clinical trials designed to induce or maintain remission

Related Publications:

• Gene-Specific DNA Methylation Changes Predict Remission in Patients with ANCA-Associated Vasculitis
Inventors

Dominic Ciavatta

For additional information, contact

Kelly Parsons
Associate Director, Technology Commercialization
kelly.parsons@unc.edu
919.962.6277