Furthermore, understanding ANA reactivity profiles in each model may help guide a more meaningful preclinical biomarker strategy and may have impact on evaluating efficacy of anti-inflammatory reagents. Characterization of ANA reactivity in each model may help determine anti-inflammatory reagents that are likely to work preclinically and may be tested in animal models.

A Genalyte Maverick instrument was used to assess IgG autoantibodies (ANA) in preclinical murine models of lupus. Presence of circulating autoantibodies, particularly anti-nuclear antibodies (ANA), is a commonly used biomarker/mechanistic endpoint for preclinical lupus pharmacology studies. Current methods to assess ANA titer through plasma dilutions may limit the number of nuclear antigens that can be evaluated, thus making multiplexing difficult. A Genalyte Maverick instrument allows for the simultaneous evaluation of nuclear antigens in a single assay. Maverick analysis of nuclear antigen reactivities showed that each murine model had a distinct ANA signature. Spontaneous NZBW-F1 mice show the strongest reactivities to Sm, RNP, and dsDNA. Females show more rapid onset and overall higher levels of anti-RNP and anti-Sm reactivity than males. No reactivity to other ANAs evaluated (SS-A 60, SS-A 52, SS-B, Scl-70, Jo-1, PCNA, Ku, and ribosomal P).

These results show that each murine lupus model may exhibit its own unique ANA signature, and that Genalyte Maverick technology is a quick and useful methodology for identifying this signature. Understanding ANA reactivity profiles in each model may help guide a more meaningful preclinical biomarker strategy and may have impact on evaluating efficacy of anti-inflammatory reagents.