Abstract: The pathogenesis of Parkinson’s disease (PD) remains unknown, though humoral immune responses correlate well with disease severity\(^1\),\(^2\), suggesting that IgG may be a useful diagnostic for early stage of PD. Unfortunately, uncovering these antigens has proven to be a challenge. To characterize antigens that elicit these IgG responses, we utilized an unbiased chemical approach to profile the immunoproteome in PD patients and healthy controls. We used small molecules as surrogates of native antigens based on the hypothesis that unbiased chemical space would represent the chemical space occupied more complex and modified epitopes that might be seen in PD patients. Multiple libraries with millions of compounds were used to screen against sera from PD patients and healthy controls. We identified small molecules capable of recognizing antibodies derived from PD patient plasma but not healthy control patient plasma. Our future direction are focused on optimizing our epitope surrogates to improve diagnostic specificity and to characterize the antigens that elicit the IgG response in these patients.
