A multiplexed immunoassay for detection of antibodies to Actinobacillus pleuropneumoniae (App) in pigs

The bacterium Actinobacillus pleuropneumoniae (App) is the causative agent of porcine pleuropneumonia, a contagious and severe respiratory disease in pigs. Based on capsular antigens, 15 App serovars have been described, and the prevalence and morbidity of these serovars vary with geographic regions (1). In Denmark, the most important serovars are considered to be App 1, 2, 5, 6, 7, 10 and 12. As part of the Danish surveillance program for App, the Danish Veterinary Institute uses ELISAs and complement fixation tests (CFT) to test for porcine anti-App antibodies (2-7). In an effort to improve our diagnostic tools, we are currently developing a novel indirect fluorescent microsphere immunoassay that can facilitate simultaneous detection of antibodies towards multiple App serovars within a single serum sample volume. The multiplex immunoassay is based on Luminex technology (8) and has several benefits compared to ELISA and CFT, including reduced serum sample volumes, lowered amount of labor and faster acquisition of results.