Evaluation of Immunoassay Interference Reduction Technologies

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Introduction
Optimization of immunoassay applications is often troubled by issues such as non-specific binding, matrix interferences, destabilization of antibody/antigen interactions, and limited sensitivity. SurModics offers tools to address these problems and provides the framework to develop sensitive, reproducible, and robust immunoassays. For both blocking and stabilization, protein-protein interactions are an essential consideration during development, and often the best option is a synthetic formulation to eliminate cross-reactivity issues observed with protein-based formulations. SurModics offers synthetic formulations for many immunoassay formats such as ELISA, western blotting and in-solution applications, all of which are illustrated in the following poster. For microarray applications, assay interference can be reduced through the use of novel, passivating surfaces. Here the surface coating provides the optimal interface for stabilizing specific protein interactions while significantly reducing non-specific binding. In addition, these surfaces can be modified to support cell-based assays. Whether it is in solution or on a surface, SurModics provides the tools necessary to develop and optimize immunoassays that are sensitive, reproducible, and robust.

Summary
- Superior protein stability/activity in both dried and in-solution applications
- Decreased HAMA false positives and demonstrated minimal dynamic range reduction
- StabiBlot Family of blockers provided lower backgrounds and increased sensitivity in western blotting
- Precipitating TMB reagent (ESPM) provides economical detection in blotting applications
  - ESPM provided similar sensitivity to high performance chemiluminescence
- TRIDIA surface chemistry provides:
  - Support for cell array formats
  - Superior epoxy surface
  - Simultaneous biomolecule immobilization and passivation

Demonstrated Improved Assay Performance Across Multiple Diagnostic Applications!