

Comparison of Alpha-fetoprotein (AFP) and TSH assays on Luminex xMAP system using SurModics blockers.

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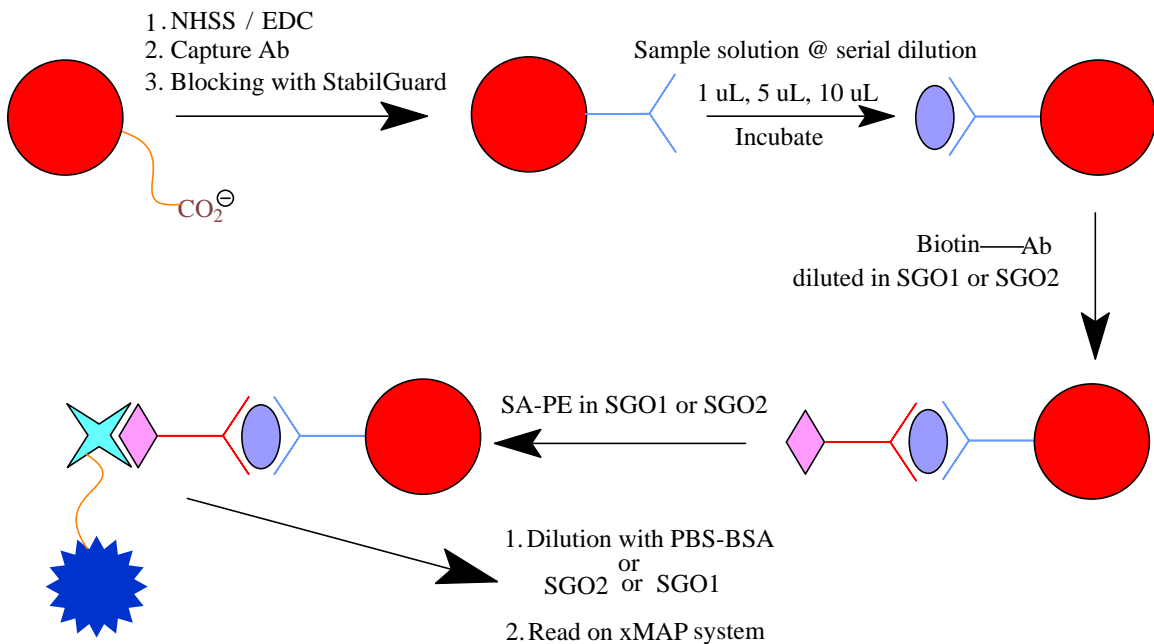
(1: Luminex Corporation, Austin, TX).

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(2: SurModics, Inc. Eden Prairie, MN).

Abstract:

Alpha-fetoprotein and TSH levels play an important role as markers for fetal malformation and thyroiditis condition respectively. The aim of this study was to evaluate the performance of Luminex xMAP progenitor beads in AFP and TSH assays in comparison to beads treated with SurModics stabilizers. In this study, two stabilizers, known as StabilGuard Biomolecule Stabilizer (SGO1) and StabilGuard Choice Stabilizer (SGO2) were evaluated as both diluents and blockers. As a non-animal source, these blockers offer an alternative approach in minimizing the risk of non-specific binding in AFP and TSH assays. SGO2 performs best when used as a blocker in the case of TSH and AFP assays. On the other hand, SGO1, performs well as a diluent in both the assays. Different assay formats have been evaluated and the conditions for the improved performance have been identified. (Scheme-1). The results show that the Luminex xMAP beads are compatible with SurModics blockers under conditions tested. SGO2 contains a mercury-free, azide-free preservative, thus can be used as a storage buffer for microspheres. Comparative results using SurModics blockers and the conventional blocking have been discussed.



Scheme-1: xMAP bead based Sandwich assay using StabilGuards