

The detection of human IgE using SPR-aptasensor

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Allergy is a common disease suffering 10–20% of the general population worldwide. High level of total IgE in a human serum reflects the presence of allergic conditions. Human IgE is detected by the IgE aptamer, which is oligonucleotide (DNA or RNA) that can bind with high affinity and specificity to a wide range of target molecules. The binding affinity of (the aptamer is changed by nucleotide sequence alteration.

On the SPR (Surface Plasmon Resonance) chip, self assembled monolayer of ethylene glycol and modified synthetic aptamers make bio-chemical interface by biotin-streptavidin reaction. A high affinity aptamer could be detected through the analysis of SPR sensorgram and an aptamer property could be found through the kinetic data.