Structure of Cystatin B-DNA aptamer Assisted Aptamer-based Sandwich Assay for HCC Detection

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Recently, it increased that associated Cystatin B can be useful biomarker for early diagnosis of HCC. In this study, we carried out SELEX process to obtain CSTB specific binding DNA aptamers. Using the SPR and dot blot assay, 2 aptamers (apta_2 & apta_22) were selected the high affinity and specificity with CSTB. Aptamer-based sandwich assay were compared with antibody-based ELISA kit, its measurement of HCC patients serum. And analysis of the CSTB-aptamer complex structure, it provide insights into the mode of their interaction which diagnosis of HCC and recurrence cancer advance in early pertinent treatment while continuous surveillance. This work was carried out with the support of "Cooperative Research Program for Agriculture Science & Technology Development (Project title: Risk Assessment Research and Development of Rapid Diagnostic Method for Biological, Chemical and Environmental Animal Disease, Project No: PJ01052301) Rural Development Administration, Republic of Korea.