

Aptamer-based sandwich assay for the early detection of Botulinum neurotoxin type C

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Botulinum neurotoxin (BoNT), produced by *Clostridia botulinum*, is one of the bacterial toxic-substances known that causes deadly disease, botulism. Usually, an identification of botulism is made through clinical manifestations and diagnosis with subsequent confirmation by laboratory identification. However, these methods are time-consuming and expertise. Thus, we report the development of DNA aptamers based diagnostic tool that is able to bind BoNT/C with specificity and sensitivity. In this study, we carried out SELEX and SPR. The selected aptamers were used in aptamer-based sandwich assay. The aptamer-based diagnostic tool provides an easy and simple detection method for disease diagnosis. This work was carried out with the support of "Cooperative Research Program for Agriculture Science & Technology Development (Project title: Development of Monitoring and Diagnostic Method for Environmental Animal Disease, Project No: PJ010530)" Rural Development Administration, Republic of Korea.