

Development of the Cadmium(II) binding DNA Aptamer and the Affinity Test

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Cadmium has no useful function in the higher organisms and high toxicity for the human body. Thus inappropriate level of cadmium exposure may cause renal dysfunction and can effect in the skeletal system. Recently, it has been released by many industrial waste, so it's necessary to develop novel cadmium recovery material. Aptamer is small nucleic acid or peptide molecules that combine with specific target molecule. It has advantages of high selectivity and stability, low cost, easy modification. In the present study, we developed DNA aptamers that specifically combine with Cadmium by SELEX process. The affinity between target and aptamer was finally measured using SPR. 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 Environment Animal Disease, Project No.: PJ010530)" Rural Development Administration, Republic of Korea.