

Adsorption characteristics of peptide-displayed E. coli for the removal of endocrine disrupting chemicals

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Biopanning protocol based on phage display has been known as a powerful tool enabling the screening of peptide with specific affinity to various target substrates. We screened several peptides with specific affinity to endocrine disrupting chemicals (EDCs) by using various biopanning protocols. EDCs such as bisphenol A and lead are known as health threatening compounds and much attention has been paid in the detection and/or removal from food sources and living environment. As E. coli-based biosorbent with specific affinity to a target EDC, a recombinant E. coli displaying peptide obtained from biopanning was constructed. Using this biosorbent, we investigated the characteristics of adsorptive removal of target EDCs in order to find whether the screened peptide sequence functions well as a selective adsorption moiety.