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Identification of high affinity Adhiron for the development of rapid point-of-care diagnostics for *Clostridium difficile* infection

Modupe Ajayi, Christian Tiede, Darren Tomlinson and Michael McPherson
University of Leeds, UK

Clostridium difficile is a leading cause of hospital acquired infection and antibiotic-associated diarrhoea. Point-of-care tests would be valuable for rapid diagnosis of patient with *C. difficile* infection both in hospital and community settings. Non-antibody binding proteins are increasingly being used as alternatives to antibodies and we have developed a very stable ($T_m=101^\circ\text{C}$) non-antibody binding protein called Adhiron (commercialized by Avacta Life Sciences Ltd as Affimer Type II). High quality phage display libraries have been used to identify Adhiron against >200 targets. These have potential applications including as scientific research reagents, in diagnostics, imaging, therapeutics and drug discovery. We have identified a number of specific and non-cross-reactive binders against the three well established biomarkers of *C. difficile* infection, glutamate dehydrogenase, toxin A and toxin B. The characterization of these Adhiron and their use in developing a point-of-care diagnostic tool for *C. difficile* infection will be presented.

Biography

Modupe Ajayi is currently a PhD student at the University of Leeds, United Kingdom. She is the recipient of several national and international scholarships including for her PhD. She is driven by the passion to use protein engineering as a tool for improving the quality of life.

bs09moa@leeds.ac.uk

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