

# Label-free aptamer based biosensor for heavy metal detection

## Abstract

Heavy metal contamination such as arsenic becomes serious threat to the health and environment of many millions in a worldwide. Arsenic contamination especially in paddy field has driven to the accumulation of As in paddy soils and possibly have adverse effects on rice products. To assess the level of severity of arsenic in paddy field is a major constraint at early stages. In the past, quantification of concentration of arsenic has been as difficult as reducing it. Thus label free Aptamer based biosensor is the most reliable sensor recently due to the advantages for the sensitive and selective detection towards detecting arsenic. Finally, this paper will discuss the current outcomes in arsenic detection using Aptasensor with sensing element formatting in enhancing the sensor signal for detection.