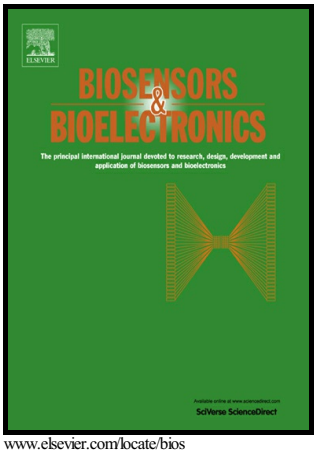

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Label-free impedimetric biosensor for Salmonella Typhimurium detection based on poly [pyrrole-co-3-carboxyl-pyrrole] copolymer supported aptamer.

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ABSTRACT

The Gram-negative bacterium, Salmonella Typhimurium (S. Typhimurium) is a food borne pathogen responsible for numerous hospitalisations and deaths all over the world. Conventional detection methods for pathogens are time consuming and labour-intensive. Hence, there is considerable interest in faster and simpler detection methods.

Polypyrrole-based polymers, due to their intrinsic chemical and electrical properties, have been demonstrated to be valuable candidates for the fabrication of chemo/biosensors and functional surfaces. Similarly aptamers have been shown to be good alternatives to antibodies in the development of affinity biosensors.

In this study, we report on the combination of poly [pyrrole-co-3-carboxyl-pyrrole] copolymer and aptamer for the development of a label-less electrochemical biosensor suitable for the