

Biological species detection by using screen printed electrodes (SPEs) is one of the important research areas for early-stage clinical diagnosis and environmental monitoring. Enzyme linked immunosorbent assay (ELISA) is widely used for determining bioanalytes such as antigen, antibody, DNA, glucose in the sample solutions. Moreover, it has potential uses in food and beverage industries for detecting food allergens, pathogens, etc. and chemical industries for detecting various metal ions at precise levels for quality control. In this study we evaluated the effect of antigen and antibody concentration on the electrochemical behaviour of 3, 3', 5, 5'-tetramethylbenzidine (TMB) using commercial SPEs. We also investigated the role of N-Terminal non-glycosylated peptide (Fraction V) as a multifunctional linker between the electrode surface and the bioanalytes in the fabrication of the immunosensors. We also studied and compared the electrochemical response of TMB in three different commercial SPEs with the N-Terminal non-glycosylated peptide (Fraction V) as a crosslinker. This helps in the future development of Immunosensors for the diagnosis of many infectious and autoimmune diseases.