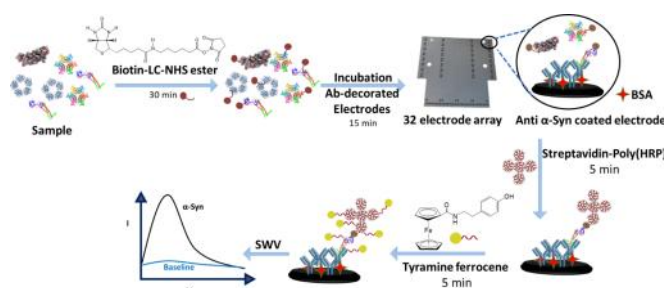


Catalytic amplification of faradic redox signal

Catalytic amplification of faradic redox signal.

Applications: Molecular detection, molecular quantification, electrochemical sensing, faradaic redox signalling



Features

Electrochemical sensing of proteins using shotgun tagging of proteins with biotin followed by protein-specific immunocapture and labelling using amplifying enzymes (poly(HRP)) to boost the electrochemical signal

This sensing method only requires a single bespoke binding event, during the protein-specific immunocapture stage

Tyramine-ferrocene is used as a HRP substrate to catalytically tether tyrosine molecules in the target proteins to tyrosine molecules on the electrode surface

Benefits

Amplifying enzymes allow the method to quantify proteins down to fg/mL levels and across 5 orders of magnitude, while maintaining good specificity, even in complex matrices such as serum

Requiring only one specific binding event means there are fewer variables and fewer steps, reducing assay time and cost

Substrate tethering is time dependent and incubation time can be tailored to allow tuning of the assay dynamic range

Patented and Available for

- Co-development
- Consulting
- Licensing

To find out more, contact enquiries@innovation.ox.ac.uk and quote the project number.

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