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## Optimal reporters for electrochemical detection of protease activity

Electrochemical, peptide-based, biosensors are attracting significant attention for the detection and analysis of proteins. Among them, proteases are interesting targets due to their relevance in many pathophysiological conditions, including inflammation and cancer. Different platforms have been suggested for the electrochemical detection of these enzymes, as they catalyze the cleavage of amide bonds at specific sites in a protein or peptide. To meet the increasing demand for selective and sensitive analytical tools for the detection of proteases, improved analytical features, such as reduced limits of detection and sensor stability, are important. Here, we investigate the effect of the nature and length of a spacer on the sensitivity of the electrochemical sensor. Redox-tagged peptides, tethered to a gold surface through a self-assembled monolayer (SAM), were selected as the sensing platform for the electrochemical detection of protease activity.

### Biography

Mark Bradley is appointed as a Professor of Combinatorial Chemistry in 1996. He has been elected to fellowships of both the Royal Society of Chemistry and Edinburgh and has awarded a number of prizes such as the Novartis Chemistry Lectureship, the Award from the Society of Combinatorial Sciences, the 2015 Royal Society of Chemistry Tilden Prize. His group has published over 300 peer reviewed papers and more than 60 PhD students have graduated from his group. He holds an ERC Advanced grant and is PI on £18M of active grants. He has published over 300 peer reviewed papers, filed 20 patents and is co-founder of Ilika Technologies (IPO on AIMS May 2010) and Edinburgh Molecular Imaging (2014).

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