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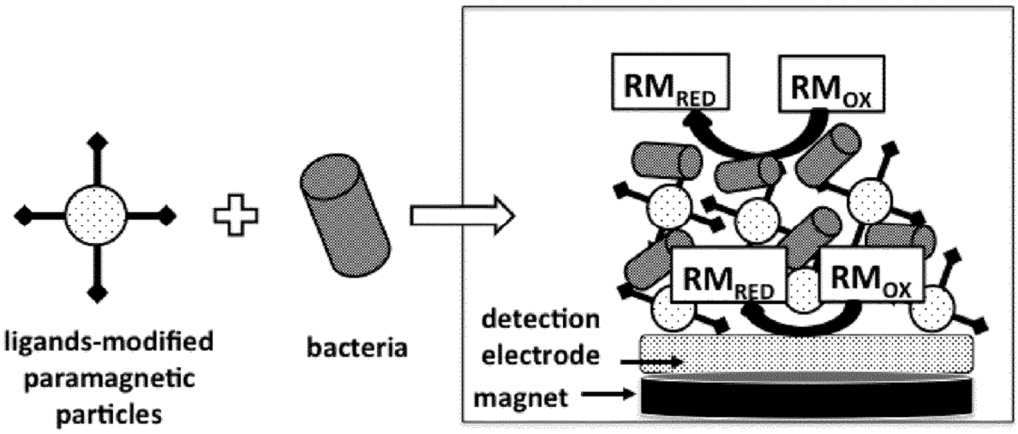
Licensing Opportunity

TTO – Technology Transfer Office

Bacterial detection



Schematic illustrating the invention (see text for details)

Ref. Nr

6.1870

Keywords

Bacterial detection, metabolic activity, antibiotic

Intellectual Property

EP3781701

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Description

There is still a need for the rapid and sensitive detection of bacteria. The measurement of the redox potential of microbial cultures can be used for the detection of metabolically-active cells, however many of the current solution suffer from slow time or lack of sensitivity.

The proposed technology solves this problem by using superparamagnetic particles functionalised to capture target bacteria, and using a magnet to concentrate on the electrode surface of an electrochemical cell an agglutinate of the superparamagnetic particles, bacteria and redox marker. The measurement in the oxidation state of the redox marker provides a direct reading of the metabolic activity of viable bacteria.

Advantages

Rapid and sensitive detection of bacteria viability and metabolic activity, even at very low concentrations/cell number count.

Qualitative and quantitative analysis of the metabolic activity of bacteria.

Applications

- Point of care antibiotic resistance testing
- Antibiotic screening tool
- Bacteria metabolic activity assay