



Rapid, sensitive and low-cost assay platform

Immunoassay technology employing magnetic particles as labels

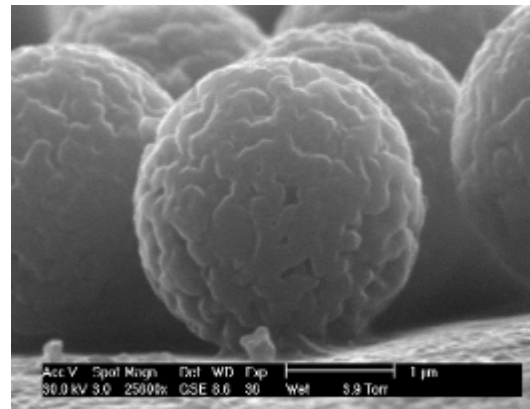
Background

Immunoassays are a standard technique for detecting and/or quantifying an analyte of interest in a test sample. The analyte could be a marker for disease, a food pathogen, a chemical or biological threat or an environmental pollutant. We have developed a magneto-immunoassay system that is rapid (results in less than 5 minutes), sensitive (ppt for certain applications), low cost and is suitable for point of care applications.

The system employs antibody coated magnetic particles as labels. Once these particles have bound to the analyte of interest they can be measured by a sensitive magnetometer to provide quantitative results. The compact, portable detection system can be configured for competitive, sandwich and displacement assay formats. Proof-of-Principle assays have been successfully developed for a number of targets including PSA, CKMB, bacteria and small molecules.

Potential benefits and applications

- Compact, inexpensive and portable detection system suitable for point of care applications
- Suitable for applications in healthcare, bio-defence, food industry and environmental monitoring
- 'Chips' for different analytes could be produced to enabling multiple applications for the platform technology
- No chemistry, optics or complicated microfluidics
- Homogenous assay
- Use of magnetic particles as a label means that little or no sample preparation is required
- Allows detection of multiple analytes simultaneously



Antibody coated paramagnetic particles bound to sensor surface

Opportunity

University of the West of England, Bristol have filed a patent application (PCT/GB2008/000993) relating to this technology and is now seeking industrial collaborators who are interested in collaborating on and/or licensing the platform technology or bespoke assays.

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