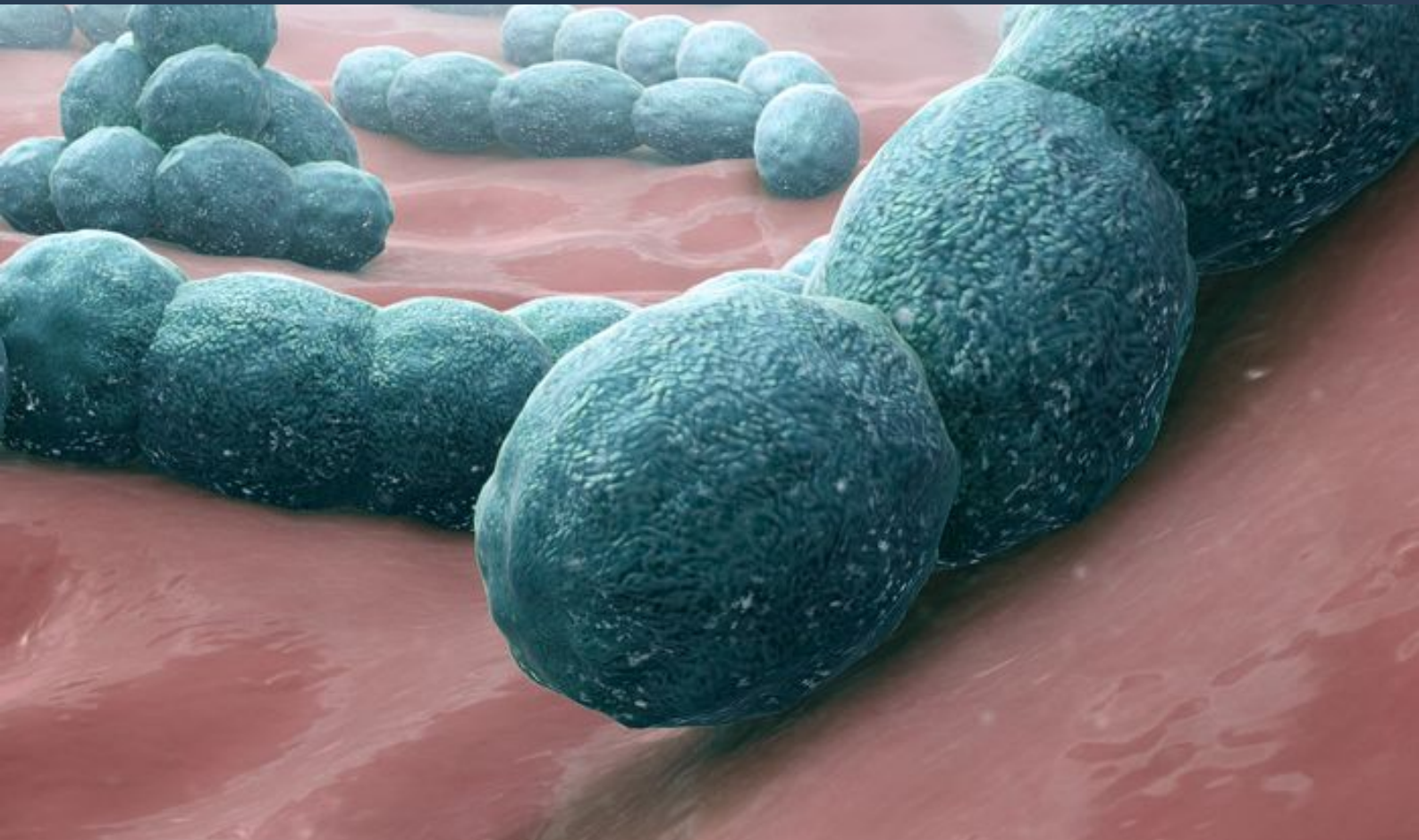


Toxin Detection Test

A technology for the detection of *Streptococcus pneumoniae*, *Streptococcus pyogenes* and *Staphylococcus aureus* toxins.



Please note, header image is purely illustrative. Source: Manu5. Wikimedia Commons, CCbySA4.0-international

IP Status

Patent application submitted, Know-how based

Seeking

Development partner, Licensing, Commercial partner

About **University of Liverpool**

By facilitating access to our expertise, facilities and networks, the University of Liverpool offers the means to transform ideas into creative solutions, improved performance, new technologies, strategies, applications, products or skills.

Background

A major impediment to improving sepsis survival rates is the lack of fast, reliable diagnostic technologies to identify a causative agent of infection. Reliance on slow, low-sensitivity culture methods means that patients are normally treated empirically, typically with broad-spectrum antimicrobials. Thus, patients may not receive the optimum treatment and care pathway, with consequences for infection outcome, as well as implications for the development and spread of antimicrobial resistance.

Tech Overview

Researchers at the University of Liverpool propose the use of liposomes as a diagnostic tool, to provide identification of causative agents of infection and a quantitative assessment of infectious burden. They use liposomes to sequester bacterial toxins from small volumes (~ 2 ml) of patient blood and liposome-bound toxin is detected using a patented detection technology. The team have developed this technology for the detection of *Streptococcus pneumoniae*, *Streptococcus pyogenes* and *Staphylococcus aureus* toxins. The test detects toxins as low as 5ng/ml and takes just 60 minutes from collection of blood to diagnosis.

Benefits

- Identifies bacteria to a species level
- Quick turn around (less than 1 hour)
- Capable of measuring very low levels of bacterial toxin (5ng/ml)
- Inexpensive to run
- High specificity and sensitivity
- Uses simple methodology and standard laboratory instrumentation

Opportunity

The University of Liverpool is looking to partner with industry or to out licence to a company who can develop their test into a kit suitable for use in clinical diagnostic laboratories.

Patents

- WO 2018/206961 A1