

Scientists to develop new rapid test in fight against sexually transmitted infections

December 9 2010

Scientists from the University of Southampton have secured funding to develop an ultra-rapid sexually transmitted infection (STI) detection system for clinics that can detect STIs in under 15 minutes.

The Client (Clinic-based Infection Examination through Nucleic acid Technologies) detection system will use short fluorescently-labelled [DNA sequences](#), called HyBeacons®, that are able to detect sections of DNA sequence with a genetic variation that identify the presence of an STI .

The technologies are being developed by scientists from LGC, a leading chemical and biological analytical services and reference materials company, working in collaboration with the University of Southampton and OptiGene, who will refine and manufacture the desktop amplification device and assay (a test to find and measure the amount of a specific substance) for rapidly testing genetic markers for detection of STIs.

The scientists have received substantial Technology Strategy Board funding to develop clinical equipment, based on LGC's HyBeacons® technology, that can detect STIs in under 15 minutes.

The project brings together researchers from across the University of Southampton with interests in development of novel molecular probes (Professor Tom Brown from the Faculty of Natural and Environmental Sciences), the biology of chlamydia (Ian Clarke, Professor of Molecular

Microbiology from the Faculty of Medicine) and development of point-of care molecular testing (Dr John Holloway from the Faculty of Medicine).

Professor Ian Clarke says: "The combination of LGC and OptiGene together with the University of Southampton is a unique partnership between industry and academia. It brings together the critical components necessary for the development of a novel, sensitive, accurate and extremely rapid point of care test that will revolutionise STI diagnostics."

Professor Tom Brown is working with LGC to produce a new generation of more powerful fluorophore molecules (a component of a molecule which causes it to be fluorescent) to enable the HyBeacons probes to detect STIs with greater accuracy and speed.

The Chlamydia Research Group, based in the University's School of Medicine who work closely with the HPA regional laboratory based at Southampton General Hospital, will use universally-conserved sequences from sexually transmitted bacteria as a basis for developing the Client tests. This team will also lead the collaboration in the design of the Client testing kits.

Dr Paul Debenham, LGC's Director of Innovation and Development, adds: "The goal of this project is to achieve a significant step forward in the fight against [sexually transmitted infections](#). Simple, rapid testing, in the order of a 15-minute turnaround, will result in a significant step-change in the efficacy of STI treatment. LGC is extremely excited about the possibilities of this new near-patient diagnostic service."

Provided by University of Southampton

Citation: Scientists to develop new rapid test in fight against sexually transmitted infections (2010, December 9) retrieved 25 April 2024 from <https://medicalxpress.com/news/2010-12-scientists-rapid-sexually-transmitted-infections.html>

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