PRESS RELEASE

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TLL AND TTSH ANNOUNCE RAPID DIAGNOSTIC TOOL IN THE FIGHT AGAINST SARS

Singapore, 25 August 2003 - Temasek Life Sciences Laboratory (TLL) and Tan Tock Seng Hospital (TTSH) are pleased to announce their successful collaboration in the development of an ELISA (Enzyme-Linked Immunosorbent Assay) for the detection of the Severe Acute Respiratory Syndrome (SARS) infection.

The outbreak of SARS earlier this year has had a major impact on the economy of Asia. The causative agent, a novel coronavirus (SARS-CoV), shares about 20–66% of the antigenic features with other coronaviruses such as Transmissible Gastroenteritis virus (TGE), Human coronavirus (HcoV-229E), and Feline coronavirus (FCoV). During the recent SARS outbreak, a key problem was the lack of a simple, rapid, reliable and accurate diagnostic test to distinguish SARS from influenza and other diseases presenting with similar symptoms.

The scientists of the Animal Health Biotechnology research group in TLL, led by Professor Jimmy Kwang, have built-up capabilities and expertise to address disease outbreaks in animals. The research team has experience in developing vaccines for respiratory diseases in chicken and pigs. Thus they were well positioned to jumpstart the project to quickly develop diagnostic tools through close collaboration with key institutions such as TTSH, National Environmental Agency (NEA) and Singapore General Hospital (SGH).

This joint effort has led to the discovery and identification of unique protein fragments of the SARS Coronavirus. These protein fragments have been found to be highly specific for the SARS Coronavirus and do not cross-react with other coronaviruses from dogs, cats, pigs and chicken. Thus, they were able to use this discovery to develop diagnostic tests for SARS.

Associate Professor Mohan Balasubramanian, Acting Director at TLL, said, “We recognise the urgent need for Singapore to come out with a simple, fast, reliable and economical diagnostic tool and supported this program to work with key hospitals such as TTSH. The availability of a rapid diagnostic test is particularly important as Singapore gears up to face the much anticipated resurgence of SARS, which could be masked by the typical widespread rise of influenza in winter. We hope that there will be no resurgence, but would like to be prepared.”

The resultant ELISA, co-developed by TLL and TTSH using these proteins, is able to detect antibodies that are produced as a result of the patient’s own immune response to the SARS infection. This test can provide results in about two hours. Based on the preliminary studies, the specificity of the ELISA is greater than 95%. More than 85% of the sera of patients, who have symptoms of SARS infection for two weeks or longer, tested positive for SARS antibodies using this ELISA.

Dr Lim Suet Wun, CEO of TTSH, said, "This diagnostic tool will be able to provide clinicians with critical information that is useful for patient management and disease containment. The development of the SARS diagnostic test is a good example of successful and beneficial collaborative efforts between the research, medical and biomedical communities in Singapore."

Professor Kwang added, "The ELISA results are very promising. We will continue to further purify the proteins to optimise this assay. Our research team is also in the process of fine-tuning other platforms to give more rapid and accurate results. We remain committed to further innovations. I am deeply encouraged by the commitment shown by my research team and the support from the medical communities in Singapore."

Temasek Life Sciences Laboratory

Temasek Life Sciences Laboratory was established in August 2002 to undertake cutting edge research in molecular biology and genetics in the broad fields of life sciences. TLL is affiliated to the National University of Singapore and Nanyang Technological University. Currently, there are 15 research groups working in the areas of cell biology, developmental biology, pathogenesis and bioinformatics. Discoveries are translated into unique platform technologies with commercial applications through TLL's commercial arm. More information about TLL is available at http://www.tll.org.sg.

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