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MEDIA RELEASE

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Lab-in-a-Cartridge for Fast and Accurate Detection of Cancer and Infectious Diseases

Dyamed Licenses IBN's MicroKit to Develop Portable, Automated, All-in-One Device for Early-Stage Disease Diagnosis



Singapore, January 15, 2009: Rapid, easy and affordable tests for cancer, avian flu and other infectious diseases move a step closer to patients as DYAMED Biotech Pte Ltd (Dyamed) licenses a unique all-in-one automated diagnostic system called MicroKit from the Institute of Bioengineering and Nanotechnology (IBN). As part of its agreement with Exploit Technologies Pte Ltd (ETPL) – the A*STAR commercialization arm – Dyamed will set up a spin-off company to develop and produce a range of new diagnostic products.

On January 16, 2009, Dyamed will sign the licensing agreement with ETPL for IBN's MicroKit technologies at the Start-Up @ Singapore Technopreneur's Bootcamp in Biopolis. The company was established by Theodore and Rose Tan in 1998 to distribute quality medical diagnostic devices in Asia Pacific. Dyamed will spin off SG Molecular Diagnostics to develop a range of diagnostic devices based on the MicroKit. The company expects to roll out a molecular diagnostic real-time PCR platform called 'MicroKit AIO' as its first product for the global market by 2010.

Mr Theodore Tan, Managing Director and co-founder of Dyamed, said, "We are deeply privileged to license this exciting technology which has the potential to make the mass diagnosis of a whole host of diseases faster, better and cheaper. With the MicroKit platform, we hope to make the diagnosis of infectious diseases and cancer more timely and widespread, thus giving patients a much higher chance of combating their afflictions."

Cancer patients are among those who stand to benefit from the MicroKit's sensitive and accurate diagnostic capabilities, which enable early-stage disease detection from raw biological samples. Professor Jackie Y. Ying, IBN Executive Director, who led the scientific team that developed the MicroKit, elaborates, "Early detection of diseases such as cancer or avian flu is critical to enhancing a patient's chances of survival. The treatment of diseases at the early stages is usually more effective and has a greater potential for improving the long-term health of the patient. Our portable and automated MicroKit is also easy to operate and may be used by non-clinical personnel for mass health screenings at strategic locations, such as airports, to contain epidemics of infectious diseases like H5N1 avian flu." The

MicroKit was developed by IBN scientists Guolin Xu, James Hsieh, Daniel Lee and Professor Ying.

Notably, IBN's device is able to handle a wide variety of samples, including tissues and body fluids. It can perform automated gene extraction in just 6 minutes and gene detection within an hour, enabling substantial cost and time savings. Disease detection with IBN's MicroKit is much faster than conventional laboratory testing, which requires 1 to 24 hours to complete. Another key feature of IBN's MicroKit is that all the molecular diagnostics processes are carried out in a self-contained, compact cartridge that is preloaded with reagents, instead of complex, time-consuming and labor-intensive laboratory processes. The disposable self-contained cartridge for individual biosample analysis avoids costly laboratory inaccuracies caused by cross-contamination and human error.

Professor Ying shared further, "By partnering with Dyamed, we hope to provide wider access to affordable, accurate and effective tests for early diagnosis for cancer patients, as well as infectious disease screening." Clinical trials are currently being conducted for the prototype MicroKit device.

ETPL has worked closely with IBN to incubate the MicroKit technology over the past three years and ETPL Chairman, Mr Boon Swan Foo, was pleased with this latest technology commercialization venture. "The signing of this licence agreement bears good testimony to the excellent market potential of A*STAR's technologies. Exploit Technologies has recognized MicroKit's potential at an early stage. We are happy to see the fruits of our incubation efforts in the form of a platform technology, upon which Dyamed can develop a range of profitable diagnostic devices. This opens up a large global market for this homegrown SME. I would also like to congratulate Dyamed for its foresight and business acumen to spin off *SG Molecular Diagnostics* despite the bleak economic outlook. The ability to spot market opportunities and the courage to launch a new business in the midst of the current world economic turmoil is definitely a display of great technopreneurship which, incidentally, is not lacking in Singaporeans. We will continue to engage Singapore companies like Dyamed to help give birth to more Singapore blockbusters," remarked Mr Boon.

About the Institute of Bioengineering and Nanotechnology

The Institute of Bioengineering and Nanotechnology (IBN) is a member of the Agency for Science, Technology and Research (A*STAR), Singapore. It was established in 2003. Massachusetts Institute of Technology (MIT) Professor Jackie Yi Ru Ying, 42, was handpicked by former A*STAR Chairman Philip Yeo to lead the institute as its Executive Director in March 2003. She has been on MIT's Chemical Engineering faculty since 1992, and was promoted to Professor in 2001. She is among the youngest to be promoted to this rank at MIT. Under her direction, IBN conducts research at the cutting-edge of bioengineering and nanotechnology. Its programs are geared towards linking multiple disciplines across all fields in engineering, science and medicine to produce research breakthroughs that will improve healthcare and our quality of life.

IBN's research activities are focused in the following areas:

- **Drug and Gene Delivery**, where the controlled release of various therapeutics

involve the use of functionalized polymers and hydrogels for targeting diseased cells and organs, or for responding to specific biological stimuli.

- **Cell and Tissue Engineering**, where biomimicking materials, stem cell technology and bioimaging are combined to develop novel approaches to regenerative medicine and artificial organs.
- **Pharmaceuticals Synthesis and Nanobiotechnology**, which encompass the efficient catalytic synthesis of chiral pharmaceuticals, and new materials for sustainable technology and alternative energy generation.
- **Biosensors and Biodevices**, which involve nanotechnology and microfabricated platforms for the detection and treatment of diseases, and the synthesis and screening of biologics.

IBN's innovative research is aimed at creating new knowledge and intellectual properties in the emerging fields of bioengineering and nanotechnology to attract top-notch researchers and business partners to Singapore. Since 2003, IBN researchers have produced a total of 445 papers published/in press, of which 184 were published in journals with impact factor greater than 3. IBN also plays an active role in technology transfer and spinning off companies, linking the research institute and industrial partners to other global institutions. As of September 2008, IBN has filed 637 patent applications on its inventions and the Institute is currently looking for partners for collaboration and commercialization of its portfolio of technologies. IBN's current staff strength stands at around 170 scientists, engineers and doctors. With its multinational and multidisciplinary research staff, the institute is geared towards generating new biomaterials, devices, systems, equipment and processes to boost Singapore's economy in the fast-growing biomedical sector.

IBN is also committed to nurturing young minds, and the institute acts as a training ground for PhD students and undergraduates. In October 2003, IBN initiated a Youth Research Program to open its doors to university students, as well as students and teachers from various secondary schools and junior colleges. It has since reached out to more than 26,000 students and teachers from over 190 local and overseas schools and institutions.

In 2008, IBN celebrates 5 years of innovative research. For more information, please log on to www.ibn.a-star.edu.sg

About DYAMED Biotech Pte Ltd (Dyamed)

Since its foundation in 1998 by Theodore and Rose Tan, Dyamed's philosophy has been to contribute to society through the distribution of medical diagnostic kits and supplies in the Asia-Pacific. Dyamed aims to provide a growing and valuable range of high quality diagnostic and medical products with high levels of customer service.

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About Exploit Technologies Pte Ltd (ETPL)

Exploit Technologies is the strategic marketing and commercialization arm of the Agency for Science, Technology and Research (A*STAR). Its mission is to support A*STAR in

transforming the economy through commercializing R&D. Exploit Technologies enhances the research output of A*STAR scientists by translating their inventions into marketable products or processes. Through licensing deals and spin-offs with industry partners, Exploit Technologies is a key driver of technology transfer in Singapore. It actively engages industry leaders and players to commercialize A*STAR's technologies and capabilities, bridging the gap from Mind to Market. Exploit Technologies' charter is to identify, protect and exploit promising intellectual property (IP) created by A*STAR's research institutes.

For more information about ETPL, please visit <http://www.exploit-tech.com>

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