

**FINAL: January 20, 2009**

## **SCHERING-PLOUGH TRANSLATIONAL MEDICINE RESEARCH CENTRE**

Schering-Plough Corporation (NYSE: SGP) is a global science-based health care company with leading prescription, animal health and consumer health care products.

In 2009, Schering-Plough plans to open a Translational Medicine Research Centre (TMRC) in Singapore. The TMRC will be part of the Schering-Plough Research Institute (SPRI), the company's human pharmaceutical research and development arm. This will further expand the company's presence in this geographical area. (See below: *Schering-Plough in Singapore.*) An email address for the Centre is [TMRC.Singapore@spcorp.com](mailto:TMRC.Singapore@spcorp.com).

Translational medicine focuses on translating the vast progress in fundamental biomedical research of the last decades into benefits for patients. The planned TMRC will support SPRI's global research and development programs by focusing on biomarker discovery and development. Biomarkers can, for example, be used as early indicators of therapeutic activity of experimental therapies or can be used to determine which patients could benefit more from a given therapy. Applying biomarkers early in the discovery process can help to identify and progress winning therapies fast and stop unsuccessful approaches early.

### **The TMRC has two planned components:**

- Translational Research Lab (TRL) – scheduled to open in February, 2009
- Translational Medicine Unit (TMU) – scheduled to open later in 2009
- Number of employees combined sites: 20 being hired in 2008. We anticipate adding over 50 employees in the next few years.

### **TRL facts:**

- Focus of the TRL will be on biomarker development for all therapy areas in which Schering-Plough is active: cardiovascular, central nervous system, immunology and infectious diseases, oncology, respiratory and women's health. In addition, TRL will do biomarker discovery work in the field of oncology.
- Additionally, TRL will be Schering-Plough's focal point for non-invasive imaging for the company's discovery and exploratory clinical development programs.
- The TRL will also coordinate Schering-Plough participation in biomarker consortia and serve as a liaison between SPRI therapy areas and Singapore's science and medicine infrastructure.
- This facility will occupy approximately 30,000 sq. foot space and will be located on the Biopolis biomedical research campus in Singapore.

### **TMU facts:**

- The TMU will be housed at a separate site from the Biopolis-based TRL.
- In addition to regular Phase I studies, TMU will focus on translational clinical studies in volunteers and patients.
- When fully operational, it is expected that the TMU will run about 20 to 30 clinical trials a year.

### **Specific Areas of Research: Biomarker development**

Through biomarker development, the TRL will support all of the therapy areas where SPRI is active: cardiovascular/metabolic diseases, central nervous system, immunology/infectious diseases, oncology, respiratory and women's health.

Everything that you can measure in a biological system can be called a "Biomarker". In drug discovery R&D, we focus on measuring, for example, if the new drug compound gets to the target organ (Organ Exposure), if it sufficiently interacts with the molecular receptor that the compound is designed for (Target Engagement), and if such target engagement results in further biological effects (pathway transduction). We also focus on measuring safety biomarkers and patient stratification biomarkers. This latter category are genetic measurements aimed at identifying if for some patients a drug is better suited than for another.

For all these types of measurements mentioned above, TRL will develop suitable fit-for-purpose tests. Fit-for-purpose generally means that these tests will give us quality results for internal decision making about our drug discovery R&D projects (for example to accelerate, continue or stop a project). In some cases such tests can be further developed to meet requirements for regulatory filings.

The TRL will also do biomarker discovery work in the field of oncology.

For biomarker development TRL will start with a biomarker discovered elsewhere (in Schering-Plough's R&D labs or in other labs) and develop it into a robust fit-for-purpose test. The biomarker discovery work that TRL will do focuses on discovering new biomarkers. Such discovery work often focuses on fundamental biology and pathology of a specific disease aiming at finding biomarkers to measure presence or progression of a specific disease or the reaction of a specific disease on drug treatment.

Additionally, TRL will be Schering-Plough's focal point for non-invasive imaging for the company's discovery and exploratory clinical development programs.

A particular group of biomarker technologies are non-invasive imaging technologies. With non-invasive imaging measurements, such as Organ Exposure, Target Engagement and Pathway Transduction, can be done. Such measurements can be done in tissues that are not easily accessible like the brain. TRL will both do biomarker discovery and development work in this area.

## Schering-Plough in Singapore

- Schering-Plough first established a pharmaceutical presence in Singapore in 1995.
- In 1997, Schering-Plough opened a state-of-the-art bulk pharmaceutical manufacturing facility to produce a wide range of pharmaceutical products.
- In March 1999, Schering-Plough opened a pharmaceutical plant to produce ASMANEX, a breath-activated, nonchlorofluorocarbon based inhaler filled with mometasone furoate, which was discovered and developed by the Schering-Plough Research Institute.
- Two other plants, the Biotech Sterile Manufacturing and Tablet Facilities, were opened in November 2002.
- In December 23, 2003, Schering-Plough opened its multi-product bulk pharmaceutical plant (MPP) and its first chemical Research and Development facility in Tuas, Singapore, to increase production capacity, facilitate technology transfer and support clinical studies globally. The MPP produces ezetimibe, the active ingredient in the cholesterol drug ZETIA.

## Schering-Plough Research Institute

- The Schering-Plough Research Institute (called SPRI for short) is the research and development unit of Schering-Plough Corporation. SPRI has laboratories in the U.S., Europe and Asia.
- We offer patients a strong portfolio of innovative prescription medicines for disease areas, including Cardiovascular/Metabolic Diseases, Central Nervous System (CNS), Immunology and Infectious Diseases, Oncology, Respiratory, and Women's Health.
- Through the combination with Organon, Schering-Plough expands into the two new areas of CNS and Women's Health.
- The Research and Development investment through the end of 3Q2008 R&D was \$2.7 billion.
- SPRI has a balanced portfolio strategy. SPRI will continue to invest in primary care as well as in specialty care projects, and both small molecules and biologics. The strategy also involves mechanisms of action, since SPRI target novel opportunities that could be best or first-in-class strategies as well as proven targets. SPRI also sources from its own internal innovation in the SPRI discovery organization as well as from outside partners when select opportunities arise.
- Among the top priorities for SPRI are 1) to maintain a sufficient flow of new product candidates to feed the pipeline and 2) to preserve and deliver our rich late phase pipeline in order to address the significant unmet patient needs.
- SPRI has a late-phase pipeline that is considered one of the strongest and most diversified among our peers. Five projects are the stars of our late-phase pipeline are:
  - TRA, our thrombin receptor antagonist, is being studied to augment aspirin and clopidogrel (or Plavix) for the prevent and treatment of atherothrombosis in patients with acute coronary syndrome without the incremental bleeding associated with the current standard of care.
  - Golimumab (which will be branded as SIMPONI pending approval) is an anti-TNF alpha in regulatory review in the EU for rheumatoid arthritis, psoriatic arthritis and ankylosing spondylitis that could be a best-in-class opportunity due to its ability to deliver results in a once monthly subcutaneous dosing.
  - Asenapine (to be branded as SAPHRIS pending approval) is in regulatory review in the U.S. for schizophrenia and bipolar disorder and will soon be submitted for market approval in Europe and the rest of the world.
  - Boceprevir, our novel protease inhibitor for hepatitis C, also presents a best-in-class opportunity.
  - Sugammadex (now marketed in several E.U. countries as BRIDION) is the first true innovation in anesthesia in about 20 years, offering total reversal of

neuromuscular block in less than five minutes versus the standard of care which takes nearly an hour.

### **Schering-Plough Corporation**

Schering-Plough is an innovation-driven, science-centered global health care company. Through its own biopharmaceutical research and collaborations with partners, Schering-Plough creates therapies that help save and improve lives around the world. The company applies its research-and-development platform to human prescription, animal health and consumer health care products. Schering-Plough's vision is to "Earn Trust, Every Day" with the doctors, patients, customers and other stakeholders served by its colleagues around the world. The company is based in Kenilworth, N.J., and its Web site is [www.schering-plough.com](http://www.schering-plough.com).