



**For immediate release**

**Yissum Presents Promising Pre-Clinical Results for Oral Delivery of the Anti-Cancer Drug Docetaxel Using a Novel Nanotechnology Approach**

*- Findings published in the prestigious journal "Cancer Research" -*

Jerusalem, Israel, April 12 – Yissum Research Development Company Ltd., the technology transfer company of the Hebrew University of Jerusalem, announced today successful pre-clinical data of oral delivery of Docetaxel, an anti-cancer drug, utilizing a novel nanotechnology platform. The technology, invented by Professor Simon Benita, Head of Institute for Drug Research, the School of Pharmacy, Faculty of Medicine at the Hebrew University, enables controlled drug release and increased bioavailability of orally administered lipophilic drugs. The findings were published by the prestigious *Cancer Research* journal (<http://cancerres.aacrjournals.org/content/early/2011/02/25/0008-5472.CAN-10-3118.abstract>).

Oral administration of lipophilic drugs is particularly challenging because they are both metabolized and actively expelled from the intestine. One of the main culprits is a protein pump called P-glycoprotein that transports the drugs back into the intestinal lumen after they have been absorbed into the body. One such lipophilic drug is Docetaxel, an anticancer drug widely prescribed for the treatment of various types of solid tumor cancer. Docetaxel is poorly soluble in water and vigorously pumped out of the intestine wall cells by P-glycoprotein. Therefore, this drug is delivered solely by intravenous infusion, after being solubilized by surfactants, which often increase adverse side effects. The innovative drug delivery technology involves the formation of drug nano-capsules that are then packed in microparticles in a manner that prevents metabolism and expulsion of the drug from the gut. The result is enhanced oral bioavailability along with prolonged release of the drug.

The data of the pre-clinical trials performed on rodents showed that the oral bioavailability of the drug embedded in the novel microparticles was 10 to 20 fold higher than other oral delivery methods, and the levels of the drug were high in the blood stream. Despite the high blood levels achieved, the rats did not suffer from immediate

side effects, indicating that the drug did not interact with the gut mucosal tissue. The anti-cancer activity of the novel formulation was demonstrated in cell cultures.

In June 2009, Yissum signed a collaborative agreement with Aurum Ventures MKI, the technology investment arm of Mr. Morris Kahn, for the further development of this oral drug delivery platform.

"Docetaxel is used for the treatment of a variety of cancers, and is currently administered as a high dose infusion every three weeks, resulting in side effects that could be quite severe," said Yaacov Michlin, CEO of Yissum. "Patients in need of this drug will thus greatly benefit from the ability to receive the drug in lower doses using an oral route. The recently published preclinical trials show that Prof. Benita's invention, currently being developed by Aurum Ventures MKI, has a real potential to offer cancer patients an oral delivery route for Docetaxel. The new delivery platform has been previously shown to be effective also for other drugs, and offers a revolutionary method to bypass specific potent barriers in the intestine and the liver, thereby greatly increasing bioavailability."

Prof. Benita added, "This unique system may allow changing the route of administration of highly lipophilic P-glycoprotein substrate drugs from injectable to oral with potentially high bioavailability and lower side effects without affecting the normal physiological activity of the metabolic filters."

#### **About Yissum**

Yissum Research Development Company of the Hebrew University of Jerusalem Ltd. was founded in 1964 to protect and commercialize the Hebrew University's intellectual property. Products based on Hebrew University technologies that have been commercialized by Yissum currently generate \$1.2 Billion in annual sales. Ranked among the top technology transfer companies in the world, Yissum has registered 6100 patents covering 1750 inventions; has licensed out 480 technologies and has spun out 65 companies. Yissum's business partners span the globe and include companies such as Novartis, Microsoft, Johnson & Johnson, Merck, Intel, Teva and many more. For further information please visit [www.yissum.co.il](http://www.yissum.co.il).

#### **About Aurum**

Aurum Ventures MKI is the technology investment arm of Morris Kahn, a prominent business man, philanthropist and entrepreneur. Aurum Ventures MKI invests in Israeli and Israel related companies in the fields of life sciences and clean-tech in all stages of development. For further information please visit [www.aurum.co.il](http://www.aurum.co.il).

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