



## **OneWorld Health, Amyris Biotechnologies and Sanofi-aventis Announce Development Agreement for Semisynthetic Artemisinin**

**- Partnership could help boost Artemisinin supply and treat up to 200 million  
malaria patients each year -**

**San Francisco, CA, Emeryville, CA & Paris, France, March 3, 2008** – The Institute for OneWorld Health (iOWH), the US-based nonprofit pharmaceutical company, together with synthetic biology innovator Amyris Biotechnologies, and leading pharmaceutical company sanofi-aventis today announced they have entered into an agreement for the development of semisynthetic artemisinin, a key ingredient in first-line malaria treatments. This partnership will build on technology originated by Professor Jay Keasling at the University of California, Berkeley.

This collaboration aims to create a complementary source of non-seasonal, high-quality and affordable artemisinin to supplement the current botanical supply, thereby enabling millions of people infected with malaria to gain consistent access to lower-cost, life-saving artemisinin-based combination therapies (ACTs). Under the terms of the agreement, OneWorld Health, Amyris and sanofi-aventis will work jointly to develop and design pilot and commercial scale manufacturing processes, with the goal of introducing low-cost, semisynthetic artemisinin into the supply chain and ACTs in 2010.

*“We are delighted to expand this partnership to build on the ground-breaking innovations of the University of California, Berkeley and Amyris Biotechnologies,”* said Nina E. Grove, OneWorld Health’s Vice President for Commercial Planning & Strategy. *“Sanofi-aventis’ historic commitment to the fight against malaria, its technical capabilities and the track record of its Access to Medicines program make them an ideal partner for this next phase of product development.”*

OneWorld Health, UC Berkeley, and Amyris have been working together as the Artemisinin Project since late 2004 to develop a new, low-cost technology platform to produce artemisinin – a project funded by the Bill & Melinda Gates Foundation. UC Berkeley professor Jay Keasling, the originator of the technology, initially identified the genetic pathway and developed a microbial system that produces artemisinin via fermentation. After successfully completing its scientific responsibilities in the Artemisinin Project, U.C. Berkeley continues to license the technology to OneWorld Health and Amyris for further product development and ultimate use in ACTs for the treatment of malaria. Sanofi-aventis, which has extensive experience in the field of malaria drugs, will be the newest partner in this collaboration to increase global access to ACTs.

*“Sanofi-aventis and Amyris are among the most advanced companies in synthetic biology,”* said Paul Baduel, Director, Process Development Biotechnology of sanofi-aventis. *“Sanofi-aventis Process Development teams in biotechnology and chemistry are proud to be involved in the design of an industrial process for the production of artemisinin.”*

Amyris will provide strain engineering expertise using the novel tools of synthetic biology. Sanofi-aventis will provide fermentation and chemistry process development expertise, and OneWorld Health will focus on the achievement of public policy and global access goals. If technical benchmarks are achieved, sanofi-aventis will commercialize the semisynthetic artemisinin.

*“This collaboration enables us to reach a goal that some scientists only dream of,”* said Jack Newman, founder and Senior Vice President of Amyris. *“What started as breakthrough in the lab can now evolve into a real solution that will truly make a difference in the world.”*

If it reaches commercial-scale, this alternative source of artemisinin would supplement the supply that is currently extracted from the botanical source Sweet Wormwood plant (*Artemisia annua*) and produce enough artemisinin for ACTs to treat up to 200 million of the more than 500 million estimated individuals who contract malaria each year. This complementary source of supply would improve the availability of high-quality artemisinin derivatives to drug manufacturers and contribute to stabilizing the price of artemisinin-containing antimalarials to benefit patients and payers.

The World Health Organization recommends using ACTs as a first-line treatment for malaria in regions where the usual first-line treatments for malaria are no longer effective because of increasing drug resistance. Malaria is responsible for more than one million deaths annually.

The Bill & Melinda Gates Foundation awarded OneWorld Health a five-year grant of \$42.6 million in December 2004 to manage a research and development collaboration with Amyris and Dr. Jay Keasling of UC Berkeley to utilize the techniques of synthetic biology to develop a new technology platform for producing artemisinin and its derivatives.

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#### **About the Institute for OneWorld Health**

The Institute for OneWorld Health, the first US nonprofit pharmaceutical company, develops safe, effective and affordable new medicines for people with infectious diseases in the developing world. The Institute for OneWorld Health, headquartered in San Francisco, California, USA, is a tax-exempt 501 (c) (3) US corporation. (<http://www.oneworldhealth.org/>).

Media resources are available at <http://www.oneworldhealth.org/media/index.php/>

#### **About Amyris Biotechnologies**

Amyris ([www.amyris.com](http://www.amyris.com)) is applying its proprietary, breakthrough technology to address major global health and energy challenges. Amyris' technology is used to produce high-value compounds to enable the production of lower cost artemisinin-based anti-malarial drugs and a slate of renewable hydrocarbon biofuels which are expected to be cost-effective and compatible with existing engines and distribution infrastructure. Based in Emeryville, CA, Amyris is a privately-held venture backed company whose investors include DAG Ventures, Khosla Ventures, Kleiner Perkins Caufield & Byers and TPG Ventures.

#### **About the University of California, Berkeley**

The University of California, Berkeley, is the nation's number one public university and is home to more top-ranked departments than any academic institution, public or private. The flagship of the 10-campus University of California system, UC Berkeley enrolls more than 25,000 undergraduates and more than 10,000 graduate students each year. The university's research budget exceeds half a billion dollars annually, one of the highest of any university without a medical school. Currently on the faculty are seven Nobel Prize winners, 131 members of the National Academy of Sciences and 84 members of the National Academy of Engineering.

#### **About sanofi-aventis**

Sanofi-aventis, a leading global pharmaceutical company, discovers, develops and distributes therapeutic solutions to improve the lives of everyone. Sanofi-aventis is listed in Paris (EURONEXT PARIS: SAN) and in New York (NYSE: SNY).

**Forward-looking statements**

*This press release contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts. These statements include product development, product potential projections and estimates and their underlying assumptions, statements regarding plans, objectives, intentions and expectations with respect to future events, operations, products and services, and statements regarding future performance. Forward-looking statements are generally identified by the words “expects,” “anticipates,” “believes,” “intends,” “estimates,” “plans” and similar expressions. Although sanofi-aventis’ management believes that the expectations reflected in such forward-looking statements are reasonable, investors are cautioned that forward-looking information and statements are subject to various risks and uncertainties, many of which are difficult to predict and generally beyond the control of sanofi-aventis, that could cause actual results and developments to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include among other things, the uncertainties inherent in research and development, future clinical data and analysis, including post marketing, decisions by regulatory authorities, such as the FDA or the EMEA, regarding whether and when to approve any drug, device or biological application that may be filed for any such product candidates as well as their decisions regarding labeling and other matters that could affect the availability or commercial potential of such products candidates, the absence of guarantee that the products candidates if approved will be commercially successful, the future approval and commercial success of therapeutic alternatives as well as those discussed or identified in the public filings with the SEC and the AMF made by sanofi-aventis, including those listed under “Risk Factors” and “Cautionary Statement Regarding Forward-Looking Statements” in sanofi-aventis’ annual report on Form 20-F for the year ended December 31, 2006. Other than as required by applicable law, sanofi-aventis does not undertake any obligation to update or revise any forward-looking information or statements.*

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