



Press Release

To media representatives

Genève, le 5 novembre 2008.

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Empowering women to protect themselves against HIV/AIDS

High technology at the service of developing countries

Medical researchers at the University of Geneva, Switzerland (UNIGE) and Geneva's Mintaka Foundation for Medical Research have discovered a new molecule. It could represent an important step forward in the fight to empower women and girls in developing countries to protect themselves from infection by HIV/AIDS. The work will appear in the November 11 issue of the scientific journal 'Proceedings of the National Academy of Sciences of the USA' (PNAS).

With more than two million new infections of adults and children in 2007, 95% of whom live in the most deprived countries, HIV/AIDS remains one of the most alarming epidemics on the planet. However, more and more specialists agree that the substances called "microbicides" could be a means of limiting the spread of this scourge. A microbicide would be applied topically on the genital mucosa, for example in the form of a cream or gel, and could act to prevent the entry of the virus into the body during sex. The UNIGE team from the Department of Structural Biology and Bioinformatics of the Faculty of Medicine, directed by Prof. Oliver Hartley, has now developed a highly promising potential microbicide.

The search for a powerful but inexpensive microbicide

For some time now this team has been on the track of an anti-HIV protein which, however sophisticated the techniques used to discover it, could be produced cheaply thereafter. This requirement was set by Geneva's Mintaka Foundation, directed by Prof. Robin Offord. For its part, Mintaka has overseen the work proving that this new protein can indeed be made cheaply, perhaps even in certain developing countries. During the last few years, several large organizations have attempted to convert simple substances, originally used for other purposes, to microbicides. Unfortunately, most have failed: the resulting substances were either too weak to be effective or, worse, they actually increased infection rates. On the other hand, the teams of Profs Hartley and Offord have, since the end of the 1990s, taken the lead internationally in trying to use modern knowledge of how HIV acts to design completely new molecules, specifically equipped to function as anti-HIV microbicides. In 2004 they had already developed a protein, one of the most potent anti-HIV substances known and the first to be able, alone, to protect female macaques from infection via the vagina.

A difficult decision, but one that paid off

In spite of strong encouragement from government agencies in the USA, the United Kingdom, and Africa to move directly to the clinic, the researchers took the risk of



devoting three more years to optimizing their molecule. Unable to obtain adequate guarantees that the production costs of PSC-RANTES could be brought down to a sufficiently low level, they felt that there was an unacceptable risk of ending up, after a huge investment of resources, with a product that only rich countries could afford. At UNIGE, Oliver Hartley's team, helped by collaborators in France and the USA, discovered the new molecule by working with a specially devised protein engineering technique. The new molecule "works just as well as the old one, including in macaques, but will cost only a fraction of the price" Prof Hartley stated. Mintaka will now take the project through to clinical trials.

Fragile populations cannot wait

There remains a major obstacle: the heavy costs of safety trials almost always come from industry but when, as here, 95% of the potential end-users have no money, it is very difficult for a company to become involved. Major agencies and private foundations generously funded this discovery, but it turns out that not even the largest of them have a rapid mechanism to meet the 10-fold increase in costs now needed to get through the safety trials. The existence of this funding gap is coming to be recognized and in the end governments and the larger funders will no doubt find ways of bridging it. But meanwhile, millions of people, more than half of whom are women and girls, are being infected with HIV/AIDS every year

About the Mintaka Foundation

The Mintaka Foundation is a not-for-profit organization placed under the oversight of the Swiss Federal authorities and recognized by the Geneva government as being of public benefit. It has several projects seeking to use high technology to find simple solutions to public health problems in developing countries. Substances and devices developed under its auspices must be distributed in developing countries on a royalty-free basis. More information is available on www.mintakafoundation.org.

Contacts:

For further enquires please contact:

Prof. Oliver Hartley, tel. +41 22 379 54 75 and +41 78 827 05 57 or via

Oliver.Hartley@medecine.unige.ch,

Prof. Robin Offord, tel. +41 79 293 57 81 or via Robin.Offord@mintakafoundation.org

Presse Information Publications:

24 rue du Général-Dufour - CH-1211 Genève 4 - Tél. 022 379 77 17 - Fax 022 379 77 29

E-mail: presse@unige.ch, www.unige.ch/presse