

**International Workshop on Discovery of Antiviral Compounds
Lübeck, Germany, April 26 - 29, 2006**

Press briefing: Friday, April 28, 12 noon

**Participants: Prof. Jeremy Carver, Trent University, Peterborough, Ontario, Kanada (President, International Consortium on Antivirals), Thorsten Geißler (Senator, Hansestadt Lübeck), Prof. Rolf Hilgenfeld, University of Lübeck (Workshop Organizer), Prof. Hans-Dieter Klenk, University of Marburg (past President, German Society for Virology), Dr. Hellmut Körner (State Minister of Public Health, Schleswig-Holstein).
Chair: Rüdiger Labahn (University of Lübeck)**

**Round-table discussion on "Emerging viruses and the need for new antivirals":
Friday, April 28, 13:30 hrs.**

**Location: Media Docks, Lübeck, Willy-Brandt-Allee 31b
Organizer: Prof. Rolf Hilgenfeld, phone +49-177-2412455
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About 160 researchers from 21 countries will meet at Lübeck, Germany, this week at the "International Workshop on Discovery of Antiviral Compounds". They will discuss ways and means to discover or design new antiviral drugs, which are urgently needed in view of the recent increase in viral challenges. In addition to new viral diseases, the HIV/AIDS pandemic is still an unsolved problem and continues to threaten mankind, in spite of recent successes in treatment.

The emergence of new infectious diseases is an inevitable consequence of the increase in international travel, climate change and more intensive agricultural practices, among other factors. Since these factors are unlikely to change in the foreseeable future, the international community must establish a capability to detect, contain and treat these diseases promptly in both the developed and developing worlds.

The most recent viral outbreak among humans is caused by Chikungunya virus, which leads to crippling of those suffering from it and had been believed to be more or less eradicated. It is now estimated that at present, up to 20% of the population of the island of La Reunion may be infected. Also, the global SARS epidemic of 2003 is remembered all too well, and it is certainly correct to state that much of present-day antiviral research has been motivated by this frightening experience. Finally, the H5N1 strain of avian influenza has reached Western Europe a few weeks ago.

These and many other recent viral outbreaks have made it clear that one cannot rely on the development of vaccines for containing the spread of infectious diseases. Even if development and production were accelerated significantly, a vaccine against a novel strain of a known virus, let alone against a new virus, would not be available within some 6 - 12 months or so after the onset of an outbreak. Immediate containment will therefore depend on quarantine and on the availability of antivirals. However, for many viral infections, there is no efficient antiviral treatment available, and for others, the drugs that exist can be expected to lose efficacy over time because of the development of viral resistance. The experience with HIV has illustrated definitively that reliance on just one anti-viral, no matter how well designed, is unwise.

In the case of influenza virus, Tamiflu[®]-resistant forms have already been found in a significant fraction of treated patients. Although there is some question as to how transmissible those mutant forms are, under the selective pressure of widescale use of

Tamiflu[®], transmissible, resistant forms are bound to emerge. Therefore, the discovery of more anti-flu drugs with different targets in the viral life cycle is a high priority.

The Lübeck workshop serves the purpose of discussing the methods that researchers have available for the antiviral discovery process. There will be sessions on high-throughput screening, natural compounds, chemical libraries, structure-based drug design, fragment-based approaches, and *in-silico* screening. Participants will of course also discuss the predictable outbreaks of the future, in particular the danger posed by avian influenza.

The field of antiviral research needs new ideas and international coordination. Launched in the aftermath of the SARS outbreak, two initiatives will be presented at this workshop. One is VIZIER, an EC-sponsored project on "Comparative structural genomics of viral enzymes involved in replication". Under the coordination of Dr. Bruno Canard (University of Marseille-Aix, France), VIZIER brings together leading European virologists, crystallographers, bioinformaticians, and drug designers in an effort to determine the three-dimensional structures of 100 potential target proteins from a multitude of RNA viruses. Both human and animal viruses are targeted, in view of the fact that many of the recent outbreaks are the results of zoonotic transmission. The structures are then used for structure-based inhibitor design, with the ultimate goal of having active antiviral compounds at hand once an outbreak occurs. The other initiative is the "International Consortium on Antivirals" (ICAV), which has been launched in Canada by Drs. Jeremy Carver and Michel Chretien, both of whom are participating in the Lübeck workshop. ICAV has similar goals as VIZIER, but goes beyond structure-based drug discovery and well into preclinical development of antiviral drugs. In addition to VIZIER, structural proteomics projects targeting SARS coronavirus will be represented at the meeting, by the San Diego-based SARS project and by SEPSDA, the "Sino-European Project on SARS Diagnostics and Antivirals", which includes laboratories in China, Poland, Denmark, and Germany, and is coordinated by the workshop organizer, Professor Hilgenfeld of the University of Lübeck.