

April 4, 2005

Paul Martini Prize 2005 awarded for clinical-therapeutic pharmaceutical research

The riddle is solved: Why blood thinners work – or sometimes don't

Wiesbaden, April 4, 2005 (PMS). There are pharmaceuticals that work, and yet nobody knows why. Until recently, this applied to coumarin derivatives, better known as "blood thinners." In Germany, more than 700,000 patients need to take these substances in the form of tablets to prevent blood clots. While they have been used since the 1940s, their mode of action was unknown for decades. Only in 2004 did adjunct professor Dr. med. Johannes Oldenburg succeed together with scientists from the University of Wuerzburg in identifying VKORC1 – the human protein targeted by the coumarin derivatives. For this discovery, Dr. Oldenburg was awarded the Paul Martini Prize today. The EUR 25,000 prize is awarded each year by the Paul Martini Foundation in Berlin for outstanding achievements in clinical-therapeutic pharmaceutical research. The award celebration takes place during the annual meeting of the German Society for Internal Medicine (DGIM) in Wiesbaden.

Oldenburg and his research colleagues not only identified the protein but also clarified why coumarin derivatives do not work in some patients: In these cases, VKORC1 is altered due to genetic changes in such a way that the active ingredients can not connect. Another genetic alteration in patients will result in delayed blood-clotting.

In his congratulatory remarks, the Munich-based internist Professor Dr. Dr. h.c. Peter Scriba praised the prize winner as a great researcher. The identification of VKORC1 will make an important contribution to attaining a better understanding of blood coagulation and possibly even developing new blood coagulation inhibitors.

Coumarin derivatives

Coumarin derivatives are among the most important pharmaceuticals for "blood-thinning," or more exactly: to suppress the blood-clotting tendency in patients with an increased blood-clotting risk. More than 2.7 million packages of these pharmaceuticals with the active ingredients phenprocoumon or warfarin are sold annually in German pharmacies.

Page 1/3

Your contact:

Dr. Rolf Hömke
Pressereferent
Telefon 030 20604-204
Telefax 030 20604-209
E-Mail: rolf.hoemke@paul-martini-stiftung.de

Hausvogteiplatz 13
10117 Berlin
www.paul-martini-stiftung.de

Press-Release

The development of these pharmaceuticals was based on a coincidental observation: In 1922, a large number of cows in the United States and Canada died from internal bleeding after eating decayed clover. This phenomenon was investigated for years until a substance generated during the decay process of hay was identified as the cause. Larger quantities of this substance completely eliminate the blood's clotting ability, which resulted in the hemorrhages observed. Physicians had the idea that – when carefully dosed – these substances could be turned into an appropriate medication. From the 1940s onward, modified substances – the coumarin derivatives – were actually used on patients to protect them from blood clots. They have prevented many heart attacks and strokes ever since.

Page 2/3

The prize winner

From 1981 to 1988, adjunct professor Dr. med. Johannes Oldenburg (44) studied biology and human medicine at the University of Bonn. In 1995, he established the working group for "Molecular Hemostasis" at the Institute for Human Genetics at the University of Wuerzburg. Together with this group, he developed the research results honored with the Paul Martini Prize. In November of 1998, Oldenburg did his postdoctoral dissertation entitled "Molecular Genetics Studies on Diagnostics, Pathogenesis and Clinic of Hemophilia A and B" in the field of transfusion medicine. Currently, he works as assistant medical director at the Department of Immunohematology and Molecular Hemostasis at the DRK Institute for Transfusion Medicine and Immunohematology (Director: Prof. E. Seifried) of the University Clinic at Johann Wolfgang Goethe University in Frankfurt (Main).

In December of 2004, Dr. Oldenburg was appointed professor for experimental hematology and transfusion medicine at the University of Bonn.

The Paul Martini Foundation

The non-profit Paul Martini Foundation, Berlin, supports the advancement of pharmaceutical research as well as the research of drug therapy and works to expand the scientific dialog about pharmaceutical research and development between medical scientists at universities, hospitals, the research-based pharmaceutical industry, other research institutions and government agencies.

The foundation was established in 1966 by the seven German pharmaceutical companies that were organized in Medizinisch-Pharmazeutische Studiengesellschaft (Society for Medical and Pharmaceutical Studies). In 1994, the Berlin-based German Association of Research-based Pharmaceutical Companies (VFA) with its 39 member companies assumed sponsorship of the foundation.

The foundation was named after the outstanding scientist and physician from Bonn, Professor Paul Martini, in honor of his special achievements and service with regard to the advancement and continued development of clinical-therapeutic research, which he impacted significantly for decades with

Press-Release



his "Methods of Therapeutic Examination" published in 1932. The prize awarded annually by the foundation for outstanding clinical research is also named in his honor.

The press release can be downloaded at www.paul-martini-stiftung.de.