

## IAPSAP/MPSA 2010 Pehr Edman Awards

The 2010 IAPSAP/MPSA Pehr Edman Awards will be presented to Dr. Per Westermark, Department of Genetics and Pathology, Uppsala University, and Dr. Gunilla T. Westermark, Department of Medical Cell Biology, Uppsala University. The awards are supported by AB Sciex.



**Per Westermark** graduated from Uppsala University in 1973 having researched amyloid in the islets of Langerhans. His studies have continued to focus on different forms of amyloidosis. As a pathologist, he is interested in the amyloid forms found in many tissues, particularly those associated with aging. He was able to show, first with histological techniques and later by biochemical characterization, that the amyloid deposits were of different composition. Over the years, he has been part of the discovery of 9 of the 28 different amyloid fibril proteins identified to date. One of his most important finds was the identification of the hormone islet amyloid polypeptide (IAPP) in 1986, which opened a new field in diabetes research. Other discoveries include the identification of medin, the most common human amyloid protein affecting the media layer of the aorta in 1999. Dr. Westermark also

demonstrated that the fibril in senile systemic amyloidosis, a disease affecting the heart of elderly men, is derived from wild-type transthyretin. Over the past 15 years, he has studied the induction and possible transmissibility of amyloid, a topic that has recently become actively pursued.

**Gunilla T. Westermark** did her PhD work on reactive systemic amyloidosis, a form of amyloidosis in which the amyloid affects tissues throughout the body, with the aim to biochemically characterise fragments of the amyloid fibril protein AA deposited in patients with chronic inflammatory disease. Her research showed that there is a coupling between protein AA fragment composition and tissue distribution and clinical symptoms. Furthermore, she was able to localize the proteoglycan core of protein AA to the amyloid deposit. Dr. Westermark performed postdoctoral research in the Howard Hughes Medical Institute laboratory of Donald F. Steiner at the University of Chicago, where she focused on localized islet amyloid polypeptide (IAPP) and its implications for cell death and development of type 2 diabetes. She characterized a transgenic human IAPP mouse model currently used for studies of islet amyloid formation. She further showed that deficiency of pro-hormone processing increases the risk of IAPP aggregation. Since her post-doctoral work, Dr. Westermark has moved to Uppsala University where she continues to study amyloid proteins and their role in disease. She has shown that prions and amyloid have interesting similarities, including



transmissibility. In addition, she has shown that fibril protein AA amyloid can be transferred between individual mice and that aggregates can reside in monocytes after phagocytosis. At present, Dr. Westermark is working to establish an amyloid model for human protein AA in *C. elegans*.

The Pehr Edman Award is given to individuals whose efforts have significantly advanced the fields of protein chemistry, protein structure analysis, or proteomics. The award honors and commemorates the work of Pehr Edman, the Swedish chemist principally responsible for developing the chemistry for sequencing proteins by removing amino acids from the amino terminus one at a time. The Award is given in conjunction with Methods in Protein Structure Analysis (MPSA) meetings, which are sponsored by the International Association for Protein Structure Analysis and Proteomics ([www.iapsap.bnl.gov](http://www.iapsap.bnl.gov)).