



VA Puget Sound Health Care System  
The Office of Public Affairs

1660 S. Columbian Way  
Seattle, WA 98108-1532

Phone: 206-764-2435  
Fax: 206-764-2250

Email:  
[pugetsoundpublicaffairs@va.gov](mailto:pugetsoundpublicaffairs@va.gov)

## News Release

**EMBARGO:** Monday, February 16, 2009 – 12:00 am GMT

### **New Study Provides Insight Into Ways Organ Systems Outside the Brain May Affect Alzheimer's Disease**

Seattle, Washington, February 16, 2009 – **In Alzheimer's disease the brain accumulates a molecule called A-beta ( $A\beta$ ) that can be quite toxic to brain cells. Many researchers believe that finding ways to clear  $A\beta$  may be a key to treatment or prevention of Alzheimer's disease.**

A study published in the February issue of the *Journal of Alzheimer's Disease* provides new insights into the way  $A\beta$  in the peripheral blood stream affects  $A\beta$  clearance in the brain. Scientists from the University of Washington in Seattle, VA Puget Sound Health Care System, and the University of Hong Kong found that when circulating  $A\beta$  levels in the blood stream of rats were elevated, known amounts of radioactively tagged  $A\beta$  were swept from the brain more slowly.

These findings directly demonstrate something researchers have proposed for several years now—that freely circulating  $A\beta$  concentrations outside the brain can regulate  $A\beta$  clearance rates inside the central nervous system.

Researchers are coming to appreciate that the brain does not act alone in the task of clearing  $A\beta$ . It can be shuttled back and forth between compartments inside the brain and the peripheral blood supply where  $A\beta$  interacts with other organ systems. Treatments that increase the flow of  $A\beta$  away from the brain hold great therapeutic promise. Despite the promise of such work many basic questions still need to be answered about how the brain interacts with the rest of body to hold  $A\beta$  in check.

Dr. David Cook of the Puget Sound Veterans' Affairs Health Care System and University of Washington School of Medicine commented, "Answering this seemingly simple question has been problematic because it can be very difficult to control  $A\beta$  concentrations in the blood. We knew from previous work that the liver plays an important role in removing  $A\beta$  from the blood.

So, we thought if we temporarily prevented liver-mediated clearance it might be possible to set or 'clamp' peripheral A $\beta$  levels long enough to find out whether A $\beta$  in the blood stream affects A $\beta$  clearance from the brain. We were a bit surprised to see how effective this strategy was. Peripheral A $\beta$  clearance immediately halted almost completely. For several years it has been suggested that the circulatory system can act like an A $\beta$  sink. The data clearly show that the liver is the primary drain."

Hepatology expert, Dr. Sum Lee of the University of Hong Kong remarked, "The liver influences virtually everything that happens in the body, so it is not far-fetched to imagine that in the future it may be possible to find ways to help the brains of Alzheimer's disease patients with their livers."

The article is entitled, "Peripheral amyloid- $\beta$  levels regulate amyloid- $\beta$  clearance from the central nervous system" by Marcos A. Marques, J. Jacob Kulstad, Christopher E. Savard, Pattie S. Green, Sum P. Lee, Suzanne Craft, G. Stennis Watson, and David G. Cook. It is published in the *Journal of Alzheimer's Disease* 16:2 (February 2009).

###

To request an interview with the senior author contact Dr. David Cook please contact VA Puget Sound Office of Public Affairs at (206) 764-2435 or [pugetsoundpublicaffairs@va.gov](mailto:pugetsoundpublicaffairs@va.gov)

Full text of the article mentioned above is available to journalists upon request. Contact Astrid Engelen at [a.engelen@iospress.nl](mailto:a.engelen@iospress.nl) to obtain copies.

#### **ABOUT THE JOURNAL OF ALZHEIMER'S DISEASE**

The *Journal of Alzheimer's Disease* (<http://www.j-alz.com>) is an international multidisciplinary journal to facilitate progress in understanding the etiology, pathogenesis, epidemiology, genetics, behavior, treatment and psychology of Alzheimer's disease. The journal publishes research reports, reviews, short communications, book reviews, and letters-to-the-editor. Groundbreaking research that has appeared in the journal includes novel therapeutic targets, mechanisms of disease and clinical trial outcomes. The *Journal of Alzheimer's Disease* has an Impact Factor of 4.081 according to Thomson Reuters' 2007 *Journal Citation Reports*. The Journal is published by IOS Press (<http://www.iospress.nl>).