

# AN URGENT NEED: See Plaque in the Brain



*Using p5 peptide developed by Jonathan Wall, Ph.D., amyloid in a mouse model glows brightly in a PET scan. The peptide can breach the blood-brain barrier and is helping researchers determine the cause of Alzheimer's and other diseases.*

Jonathan Wall, Ph.D., a professor and director of Preclinical and Diagnostic Molecular Imaging Laboratory and his collaborators, Steven Kennel, Ph.D., and Amy LeBlanc, D.V.M., have developed and are testing new imaging agents that might be good for patients who suffer from amyloid-related diseases like Alzheimer's disease and Type 2 diabetes, as well as certain cancers, such as melanoma.

People with Alzheimer's and Type 2 diabetes develop amyloid, a substance comprised of sticky protein fibers and sugar molecules. Doctors

are uncertain what role amyloid plays in these diseases, but they believe it causes destruction of brain cells and the insulin-making cells in the

pancreas. Because of this uncertainty, there is an urgent need to see the sticky substance to accurately diagnose and stage disease and

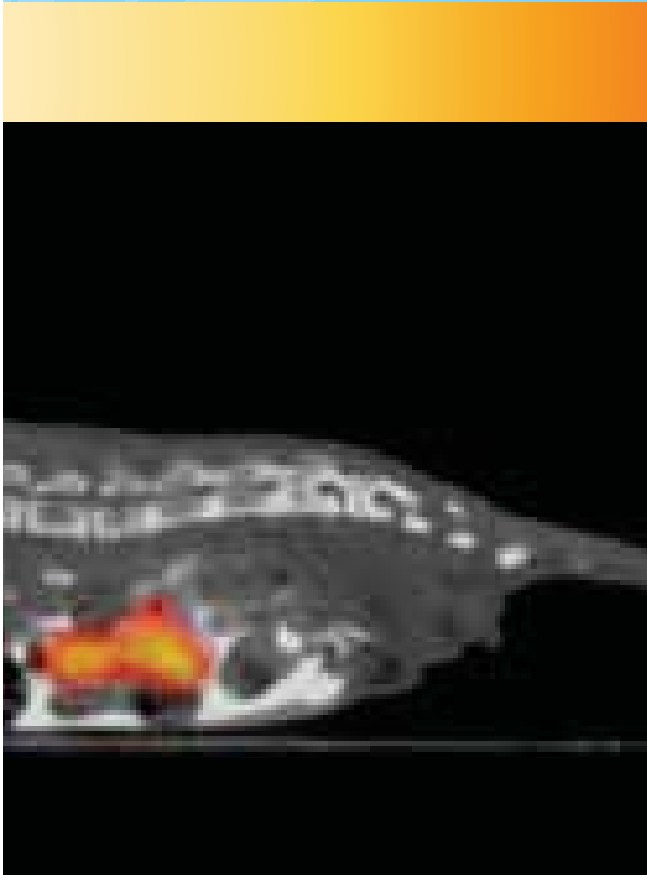
monitor therapies patients are using. Until now, seeing amyloid in these patients occurred only in autopsies.

Wall has developed a new peptide imaging agent, a tiny protein he's named "p5." This peptide seeks out and binds special sugar

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## WHY THIS MATTERS:

WHILE P5 DOES NOT YET DESTROY AMYLOID, IT DOES BIND TO EVERY TYPE OF AMYLOID. IT BRINGS US ONE GIANT LEAP CLOSER TO UNDERSTANDING ALZHEIMER'S DISEASE AND DIABETES AND IN DEVELOPING RAPID METHODS FOR ACCURATE DIAGNOSIS AND TREATMENT STRATEGIES, LEADING ULTIMATELY TO A CURE FOR AMYLOID-ASSOCIATED DISEASES AND CANCER.



*Jonathan Wall, Ph.D.*

molecules that are found in amyloid deposits and surprisingly on certain tumor cells, including melanoma tumors. Under the right conditions, the p5 peptide can breach the blood-brain barrier and through PET (positron emission tomography) scans and other techniques has been shown in preclinical tests to stick to amyloid in the brains of animals with Alzheimer's-like disease.

Wall expects that with appropriate modifications, p5 may eventually image amyloid in patients with Alzheimer's disease and diabetes better than other imaging agents because it can specifically seek the amyloid. Peptide p5 is the only imaging agent in the world to bind the sugar molecules in amyloid or tumors. It is unique.

In addition, Wall and Kennel have been able to detect melanoma tumors on animals that are brought by their owners for care. LeBlanc uses this technique to assist in the diagnosis and monitoring of dogs suffering with melanoma.

"In the U.S., our ability to detect amyloid deposits is limited," said Wall. "We've made amazing progress, but we need to move faster. P5 is the next generation of amyloid imaging agents, and it holds much promise for helping people with Alzheimer's and diabetes as well as those suffering from certain forms of cancer." ▲

