



*Florida Institute of Technology*

## Novel Diagnostic for Alzheimer's Disease in Living Patients

### *Summary*

Alzheimer's disease (AD) is a neurodegenerative disorder characterized by a progressive decline in cognitive function, as well as by numerous amyloid plaques, neurofibrillary tangles (NFTs) and extensive neuronal loss in the brains of AD patients. Furthermore, it has been suggested that oxidant stress may be of functional importance in the pathogenesis of AD and that the production of reactive oxygen species (ROS) in the brain leads to lipid peroxidation and neuronal degeneration. Efforts to elucidate the role of lipid peroxidation and oxidative stress *in vivo* have been hampered by the availability of markers, which have been of limited value due to chemical instability or a lack of sensitivity or specificity. Researchers at Florida Institute of Technology and the University of Pennsylvania have identified a particular type of compound that appears as a result of lipid peroxidation selectively in affected regions of AD brains, but not in controls, i.e., in the frontal and temporal cortex, but not in the cerebellar cortex. This suggests that oxidative stress may play a role in the pathogenesis of AD, and that the determination of compound levels in cerebrospinal fluid or other body fluids could be exploited to develop novel tests for the diagnosis of AD in living patients.

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