

By ~~Tudor~~ ~~2008~~ ~~2008~~, World and Health News Editor

Molecular Surgery, An Efficient Remedy for Alzheimer's

The scientists attached gold nanoparticles to a group of beta amyloid fibrils

Chemists in Chile and Spain have identified a new approach for the possible treatment of Alzheimer's disease that they say has the potential to destroy beta-amyloid fibrils and plaque, hypothesized to contribute to the mental decline of Alzheimer's patients. The researchers say the new technique, which they call a type of "molecular surgery," could halt or slow the disease's progress without harming healthy brain cells. The scientists attached gold nanoparticles to a group of beta amyloid fibrils, incubated the resulting mixture for several days and then exposed it to weak microwave fields for several hours. The energy levels of the fields were six times smaller than that of conventional cell phones and unlikely to harm healthy cells, the researchers say. The fibrils subsequently dissolved and remained dissolved for at least one week after being irradiated, indicating that the treatment was not only effective at breaking up the fibrils but also resulted in a lower tendency of the proteins to re-aggregate. Researchers at Rhode Island Hospital and Brown Medical School have discovered that insulin and its receptors drop significantly in the brain during the early stages of Alzheimer's disease and that levels decline progressively as the disease becomes more severe. That result came to support the theory which said that Alzheimer's was a new type of diabetes. In addition, they've also found that acetylcholine deficiency, a hallmark of the disease, was linked directly to the loss of insulin and insulin-like growth factor function in the brain. Researchers also announced that the red wine might also be an efficient remedy, resveratrol, a compound found in grapes and red wine, lowering the levels of the amyloid-beta peptides, which are responsible for the disease.