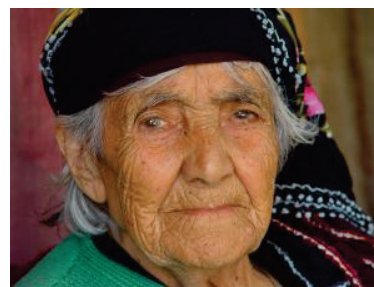
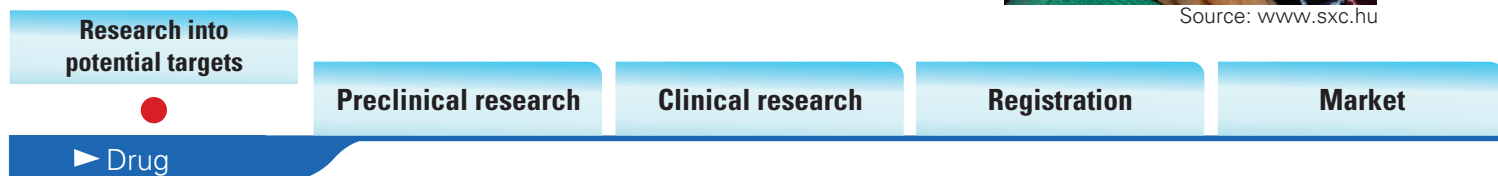


**“Semi-synthetic derivatives present pharmacological potential for the treatment of neurodegenerative diseases such as Alzheimer's disease.”**



Source: www.sxc.hu



## Description

The technology comprises new semi-synthetic piperidine derivatives analogous to natural piperidine for the treatment of degenerative neuropathies such as Alzheimer's disease, as well as the process for obtaining them and their pharmaceutical compositions.

## Problem

Alzheimer's disease is progressive and fatal, causing physical, psychological and financial impacts on patients and caregivers. In rapid expansion due to the increased life expectancy of the world population, the disease has few treatment options and so far no prospect of a cure (WHO, 2010).

## Proposed solution

Inhibiting the enzyme acetylcholinesterase (AChE) enhances the cholinergic activity of the central nervous system, controlling the symptoms of Alzheimer's disease in the areas of memory and learning. The newly developed compounds act as inhibitors of the enzyme AChE and can be used in the production of new drugs for the treatment of degenerative neuropathies such as Alzheimer's disease.

## Benefits

The most active compound was able to inhibit approximately 63% of the cholinergic activity (ex vivo trial of rat brain tissue), demonstrating a potential for the development of a new medication against Alzheimer's disease. The benefits resulting from the use of the possible medication are:

- A new alternative for the treatment of neurodegenerative diseases for which there is currently no prospect of a cure, such as Alzheimer's disease;
- Specific action, fewer side effects;
- Lower production costs because it involves the use of national raw materials and technology.

## Market potential

Alzheimer's disease affects more than 35 million people worldwide, especially those over 65 years old. According to the World Alzheimer's Report 2009, the prevalence of the disease is expected to increase almost twofold every 20 years, i.e., 65 million in 2030, and 115 million in 2050. Alzheimer's patients lose an average of 11 healthy years due to the high disability index and premature death. In 2005, the disease accounted for 0.73% of the total number of deaths worldwide. In the United States, where 5.3 million people suffer from the disease, spending on medication and medical care is estimated at 172 billion dollars per year. According to Pfizer's Annual Report 2009, worldwide spending on Alzheimer's disease reaches US\$ 315 billion (WHO, 2010; Alzheimer's Disease International, 2009; Alzheimer's Disease Facts and Figures, 2010).

## Contact

**UNESP Technology Transfer Office - AUIIN**  
**E-mail :** paulo.carvalho@reitoria.unesp.br  
**Website:** www.unesp.br/auin  
**Phone:** +55 (11) 3393-7901 / 7909

