

Proprietary Therapeutics for Alzheimer's Disease

IIBR has launched a major R&D program focused on the design, development and testing of novel drug compounds for the treatment of central nervous system disorders such as Alzheimer's disease (AD). The program is based on manipulation of specific neurotransmitter systems believed to be involved in a range of neuropsychiatric diseases.

Achievements

- The discovery of novel CNS drugs protected by worldwide patents
- Generation and evaluation of AF102B, an M1 selective muscarinic agonist, developed in cooperation with a major Japanese company. AF102B was approved by the FDA (Jan. 2001) and in Japan (June 2001) for treatment of dry mouth in Sjogren's Syndrome and is now marketed in the USA and Japan under the name Cevimeline (EVOXAC™) by Daiichi Pharmaceuticals

Significantly, treatment of AD patients with AF102B resulted in a considerable decrease of beta-amyloids in the cerebrospinal fluid. This seminal finding indicates that AF102B may reduce the beta-amyloids burden in brains of AD patients. With the exception of M1 agonists such as AF102B, no other compounds were reported to have such a unique and highly promising property in AD.

The design and production of unique proprietary structures with potential therapeutic activity is an outcome of an extensive effort in rational drug design and pharmacological screening. A number of lead compounds that appeared to have the clinical potential to be effective in treating both acute and chronic neurodegenerative diseases were identified and comprehensively evaluated e.g., AF150(S), AF267B and others. These compounds can be useful both in treatment and as disease modifying-agents in AD and other related diseases. Significantly, these compounds can beneficially affect major hallmarks involved in AD pathology (cognitive dysfunction, amyloids, tangles and cell death).

Drugs that address cholinergic dysfunction are believed to provide potential benefit not only for those suffering from AD; they are also considered useful in treatment of additional disease states such as Lewy Body Dementia, minimal cognitive impairments, schizophrenia, mania, stroke, head injury, post-operative delirium, etc.

