Discovery of Potential Drug Candidates for the treatment of Alzheimer's Disease and Related Dementias

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Abstract   A systematic study was conducted to discover novel and more effective inhibitors of acetylcholinesterase (AChE) and butrylcholinesterase (BuChe) identified as targets for the development of candidate drugs against Alzheimer`s diseases and related dementias. This led to the identifications of several new classes of potent AChE inhibitors of natural origin, notable among them are over thirty members of steroidal alkaloids series isolated from various species of medicinal plants Buxus and Sarcococca. Many members of this series were found to be more active then known and clinically used AChE inhibitors. This potent new series of AChE inhibitors were found to inhibit the enzyme by a novel mechanism and thus have potential to be used in the treatment of Alzheimer`s diseases and related dementias. This work has thus provided a unique example of the discovery of new drug candidates from natural sources for a targeted disease.