

Summary

The relationship between structure and activity of potential reactivators of acetylcholinesterase

Organophosphorus compounds (OPC) are used as agricultural pesticides and in industry as fire retardants or plastificators. For military use there have been developed nerv agents (NA, e.g. tabun, sarin, somna, VX). The toxicity of these compounds is based upon phosphorylation or phosphonylation at the serine hydroxy group (Ser200) of the active site of the acetylcholinesterase. The current standard treatment consists of administration oxime reactivators in combination with anticholinergic drug (preferably atropin). Unfortunately, none from the currently used oximes is sufficiently effective against all types of the OPCs. The aim of this study is determination of the relationship between structure and activity of new reactivators against paraoxon inhibited AChE *in vitro* and comparison with currently available substances. For evaluation of reactivation activity has been chosen standard *in vitro* test using rat brain homogenate