

6. Summary

The Ph.D. thesis is focused on a development of the novel acetylcholinesterase reactivators – the causal treatment for the intoxications caused by the organophosphorus inhibitors of cholinesterases. The background for an experimental work was a review article based on the published papers in the period 1990-2004. The experimental work was focused on a synthesis, a structural analysis and an *in vitro* evaluation of the novel acetylcholinesterase reactivators, which were compared to the commercial available compounds. The structure activity relationship (SAR) studies of the novel acetylcholinesterase reactivators were prepared according to the *in vitro* results. Moreover, other novel acetylcholinesterase reactivators were synthesised based on the previous SAR data. Recently, some of the novel compounds are tested *in vivo*. In conclusion, it was prepared, determined and evaluated over than 70 novel acetylcholinesterase reactivators. The review and experimental papers (25 papers) were published in the scientific journals and presented as the short communications or posters at the scientific meetings in the Czech Republic or abroad.