

# RESEARCH OF ANTIHYPOXIC ACTIVITY OF 7-CHLORBENZYL-8-SUBSTITUTED THEOPHYLLINUM

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One of the most important tasks of modern experimental and clinical pharmacology is the search for new chemical compounds and the development of new medicines, improve the survival rate of the body in situations of acute hypoxia.

The aim of this research was a study of antihypoxic activity first synthesized 7-chlorbenzyl-8-substituted theophyllinum.

Materials and methods: the objects of the study were 11 substances selected among 7-chlorbenzyl-8-substituted theophyllinum.

The investigated substances entered intragastrically experience rats, in a dose 0,05 LD50 as a 3-5%. In 30 minutes of rats placed in the isolated chambers by volume of 3000 mls and measured time to the offensive of the agonic state. By preparation of comparison was chosen mexidol. Mexidol entered intragastrically in a dose 5 mgs/of kg as a 3-5% water suspension. An equivalent amount of 3-5% suspension of water was entered in rats of control group.

Among 7-chlorbenzyl-8-substituted theophyllinum the most antihypoxic activity was shown by compound 5 - 7-p-chlorbenzyl-8-p-phthorbenzylidenhydrazino theophyllinum, which in a dose 16,3 mg/of kg increased life-span of rats in the conditions of acute normobaric hypoxia on 72,7%. Replacement in 8th position of molecule 7-chlorbenzyl-8-substituted theophyllinum of *n*-phthorbenzylidenhydrazinum (comp.5) on *n*-bromobenzylidenhydrazinum (comp. 4), cause to reduction of antihypoxic activity from 72,7% to 7,3%. Reference drug mexidol also showed antihypoxic activity and increased life-span in rats on 66,9% in the conditions of acute normobaric hypoxia with a hypercapnia.

Thus, the results of this stage of screening researches, shows that the antihypoxic activity of compound 5 exceeds of reference drug mexidol.

Conclusions: 7-chlorbenzyl-8-substituted theophyllinum the most antihypoxic activity was shown by compound 5 - 7-p- chlorbenzyl-8-p-phthorbenzylidenhydrazino theophyllinum, which in a dose 16,3 mgs/of kg increased life-span of rats in the conditions of acute normobaric hypoxia on 72,7%. Derivates 7-*n*-methylbenzil-8-substituted theophyllinum are the perspective group of organic matters for the subsequent leadthrough of purposeful synthesis and pharmacological screening with the purpose of creation on their basis of effective of effective antihypoxic preparations.