THE OCUTE TOXICITY OF 1,2,4 – TRIAZOLE DERIVATIVES

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One of the priorities of modern medicine and pharmacy is the synthesis of new, highly efficient and low-toxic compounds that can be used as potential drugs. Derivatives of nitrogen-containing heterocycles, such as 1,2,4-triazole, cause great interest in this regard both for our country authors and foreign one [1].

Research of the acute toxicity of new compounds could prevent the development of compounds with high pharmacological activity, which exhibit undesirable pharmacological properties. Therefore, on the first stages of research the study of the acute toxicity of new compounds is quite actual [2].

One of the first steps of pharmacological screening the toxicity data by the V.B. Prozorovskiy method and communication between chemical structure and biological effects of the compounds has been studied [1].

For further research of the pharmacological properties of the synthesized compounds the acute toxicity of 5-thio-substituted 3-(5-bromofuran-2-yl)-4-ethyl-(4H)-1,2,4-triazole, 5-R-1,2,4-triazole-3-thiones, 4-amino-5-(2-, 3-, 4-nitrophenyl)-1,2,4-triazole-3-thiones and their derivatives has been examined on white nonlinear rats by the method, which was mentioned above.

In the article, called “The acute toxicity of 5-thio-substituted 3-(5-bromofuran-2-yl)-4-ethyl-(4H)-1,2,4-triazole derivatives” (authors – Ye. S. Pruglo, A. I. Panasenko, Ye. G. Knysh), it has been established that the acute toxicity of the test compounds is in the ranges from 331 to 713 mg/kg, which indicates their low toxicity and classifies them to the IV-th class of toxicity [2].

In the article “The acute toxicity of 5-(2-, 3-, 4-methoxyphenyl, (3, 4, 5-trimethoxyphenyl)-)-1,2,4-triazole-3-thiones and its thioderivatives” (authors – Yu. G. Samelyuk, A. G. Kaplaushenko), it has been established that LD_{50} values of new 1,2,4-triazole-3-thiones derivatives which contain methoxyphenyl substituents in 5th

position of the triazole nucleus, are in rage 304±65-1245±197 mg/kg. Investigated compounds are low-toxic or nontoxic substances according to Sidorov classification [3].

In the article called "Acute toxicityof 4-amino-5-(2-, 3-, 4-nitrophenyl)-1,2,4-triazole-3-thiones and its derivatives" (authors – M. O. Shcherbak, A. G. Kaplaushenko, I. F. Belenichev), based on the experience of previous research in order to create new original drugs, it had synthesized a series of 4-amino-5-(2-, 3-, 4-nitrophenyl)-1,2,4-triazole-3-thiones and their derivatives and established the conformity of structure and toxicity all of this compounds [1].

So it has been established that the synthesized compounds are non-toxic or low-toxic substances.

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