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МАТЕРІАЛИ

ВСЕУКРАЇНСЬКОЇ НАУКОВО- ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ З МІЖНАРОДНОЮ УЧАСТЮ

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arborescens L. [4]. *Stationary Phase*. Thin-layer separations are performed on chromatographic plate «Silufol», covered with silica gel. *Mobile Phase*. Mixture of solvents (ethanol 96% *R*:concentrated ammonia solution *R* (16:4.5)) are used as a mobile phase for the analysis of OA [3].

Results and discussion. Samples in the form of uniform and small spots are deposited on chromatographic plates, using calibrated capillaries. The chromatographic plates are inserted in the chromatographic chamber. Chromatogram after drying was sprayed with a derivatisation reagent – 0.04% bromocresol green in 96% ethanol, heated in a drying cabinet until yellow spots appeared on a blue background. The movement of the *BACs* was expressed by the Rf. OA detection reveals three spots, corresponding to malic (Rf=0.21±0.01), salicylic (Rf=0.72±0.02) and benzoic (Rf=0.60±0.02) acids, which was evidenced by the appearance of yellow spots at the level of the chromatogram spots with pharmacopoeial standard samples of OA.

Conclusion. The present study shows the presence of medicinally important *BACs* in *Hydrangea arborescens* L. leaves, which may be potential for novel drug discovery. TLC analysis of the phytochemicals showed the good sensitivity and separation. The experimental results prove the presence of OA in the researched plant raw materials.

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LABORATORY FOR PRIMARY PHARMACOLOGICAL SCREENING FOR THE STUDY OF PROMISING BIOLOGICALLY ACTIVE SUBSTANCES AMONG 1,2,4-TRIAZOLE DERIVATIVES

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Introduction. In the realm of modern medical and pharmaceutical sciences, there is a pressing task at hand: the search for effective and safe drugs to treat various diseases. Nitroheterocycles, specifically derivatives of 1,2,4-triazole, have proven themselves as a class of compounds with low toxicity and diverse biological activities. The works of Prof. Knysh Y.H., Panasenko O.I., Kaplaushenko A.H., Parchenko V.V., and Bilai I.M. show derivatives of 1,2,4-triazole possessing antioxidant, hypolipidemic, antifungal, hepatoprotective, and other types of activities. Therefore, in our laboratory for primary pharmacological screening, active research is being conducted to study biologically active substances among derivatives of 1,2,4-triazole.

The Aim: the primary objective of our research is to identify safe and promising substances among 1,2,4-triazole derivatives, possessing various types of biological activity, for further in-depth study.

Materials and methods: traditionally, toxicity levels are experimentally determined in laboratory animals. Considering contemporary possibilities and ethical standards, we analyzed a series of compounds and selected a model for studying acute toxicity using the Kerber method in the modification of A.O. Loyt and M.F. Savchekov.

Experimental Design: 6 groups were formed, one serving as a control, each consisting of 6 rats. White non-linear rats were weighed and marked. The investigational compound's aqueous solution was administered intraperitoneally to the animals on an empty stomach.

The experiments were conducted on 55 adult white non-linear male rats with a weight range of 220-260 g. The rats were sourced from the breeding facility affiliated with the Institute of Pharmacology and Toxicology of the Academy of Medical Sciences of Ukraine. The animals were maintained on a standard diet and subjected to a natural light regimen simulating "day and night."

Peripheral Analgesic Mechanism Study: for the study of peripheral analgesic effects, a classical screening model of "acetic acid-induced writhing" was employed. Intraperitoneal administration of a 0.6% acetic acid solution promotes the general activation of the nociceptive system and local release of histamine, serotonin and prostaglandins, leading to the development of abdominal muscle contractions, known as "writhing," accompanied by stretching of the hind limbs and arching of the spine.

Results: according to the acute toxicity study, the investigated compounds fall into the IV-V toxicity class (practically non-toxic).

It was observed that the reference drug, metamizole sodium, exhibited a potential difference of 6.60 ± 1.03 V in the two measurements, corresponding to an analgesic activity of 94.12% compared to the control. 4 test compounds demonstrated a substantial decrease in pain sensation in animals subjected to electric current.

The research results indicate that derivatives of 4-R, 5-pyridine-1,2,4-triazole-3-thiols represent a promising class for the ongoing exploration of substances with potential analgesic properties.

Conclusion: Our findings indicate the presence of analgesic activity in a series of 1,2,4-triazole derivatives, laying the groundwork for further in-depth and specific exploration of the most active substances.

SYNTHESIS AND PROPERTIES OF 4-(4-CHLOROPHENYL)-5-(PYRROL-2-YL)-1,2,4-TRIAZOLE-3-THIOL DERIVATIVES

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Introduction. A long-term study of 1,2,4-triazole derivatives has revealed the great chemical and pharmacological potential of these compounds, which makes them promising for the development of new medicines. Particular attention is paid to the possibility of combining this cycle with heterocyclic synthons of a different structure at the early stages of the formation of the starting compound. This approach greatly simplifies chemical transformations and helps to obtain the desired product, which may have the potential to become a biologically active substance in the future.

The aim of our research work has been the synthesis of 4-(4-chlorophenyl)-5-(pyrrol-2-yl)-1,2,4-triazole-3-thiol derivatives to obtain compounds with potential biological activity.

In the course of the research, initially, the synthesis of 2,2,2-trichloro-(1-pyrrol-2-yl)ethanone was carried out by the interaction of pyrrole with trichloroacetyl chloride. Further, pyrrole-2-carbohydrazide was obtained by hydrazinolysis of the starting material. This product has been used in the reaction with 4-chlorophenylisothiocyanate, which has been synthesized before. The resulting *N*-(4-chlorophenyl)-2-(pyrrole-2-carbonyl)hydrazine-1-carbothioamide was subjected to