

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ
КАФЕДРА ТЕХНОЛОГІЇ ЛІКІВ
КАФЕДРА КОСМЕТОЛОГІЇ І АРОМОЛОГІЇ
ВСЕУКРАЇНСЬКА АСОЦІАЦІЯ АПІТЕРАПЕВТІВ



Матеріали
міжнародної науково-практичної конференції,
присвяченої пам'яті академіка УАН О. І. Тихонова

**«Застосування методів лікування
і апіпрепаратів у медичній,
фармацевтичній та косметичній
практиці»**

25 березня 2020 р., м Харків

Харків
2020

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Серія «Наука»

**«ЗАСТОСУВАННЯ МЕТОДІВ ЛІКУВАННЯ І АПІПРЕПАРАТІВ
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ТА КОСМЕТИЧНІЙ ПРАКТИЦІ»**

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Biological activity of 4-substituted-3-(thiophen-2-ylmethyl)-4H-1,2,4-triazole-5-thioles derivatives

Safonov A.A.

Department of natural sciences for foreign students and toxicological chemistry

Zaporizhzhya State Medical University, Zaporizhzhya, Ukraine

8safonov@gmail.com

Interest in 1,2,4-triazole derivatives has been steadily increasing both among Ukrainian [1,2] and foreign scientists [3]. This contributes to the development of the whole field of veterinary medicine and pharmacy. Every year, original substances are created on the basis of the 1,2,4-triazole nucleus. Domestic scientists are studying in detail the 1,2,4-triazole-5-thioles derivatives. One of these areas is the synthesis and study of the biological activity of 4-substituted-3-(thiophen-2-ylmethyl)-4H-1,2,4-triazole-5-thioles derivatives.

The aim of our work was to study biological activity, namely antituberculosis, actoprotective, diuretic, analgesic, antimicrobial activities of 4-substituted-3-(thiophen-2-ylmethyl)-4H-1,2,4-triazole-5-thioles derivatives.

Materials and methods

Antituberculosis activity of new synthesized substances was studied on *M. bovis* 100 passage, which was cultured at 37° C with substance at the indicated concentrations in a thermostat for three months on medium with pH 6.5 (ten test tubes with each other concentration) and pH 7.1 (ten test tubes with each other concentration). As a control using *M. bovis* 100 passages without the addition of a substance to the medium.

Actoprotective activity of 4-substituted-3-(thiophen-2-ylmethyl)-4H-1,2,4-triazole-5-thioles derivatives was studied by forced swimming method. Analgesic activity of 4-substituted-3-(thiophen-2-ylmethyl)-4H-1,2,4-triazole-5-thioles derivatives was studied on the model of thermal stimulation of limbs - "hot plate". To establish the influences of the compounds on the excretory renal function method was used by E. B. Berkhin [4]

Antimicrobial activity of 4-substituted-3-(thiophen-2-ylmethyl)-4H-1,2,4-triazole-5-thioles derivatives has been studied by the "serial dilutions" method.

Results and discussion

Thus, it can be concluded that 0,1%, 0,5% and 1,0% concentration of 5-(thiophen-2-ylmethyl)-4H-1,2,4-triazole-3-thiol actively influence the culture properties pathogenic strain *M. bovis* cultured on medium with pH 6.5 at 37⁰C, holding back growth, having a tuberculostatic effect.

Studies of 4-substituted-3-(thiophen-2-ylmethyl)-4*H*-1,2,4-triazole-5-thioles derivatives have shown that 3 compounds exceed the standard of comparison “Riboxin”.

As a result of studies analgesic activity of new synthesized compounds, it has been found that 2 compounds exceed the standard of comparison “Analgin”. The synthesized compounds show a moderate diuretic activity.

As a result of studies antimicrobial activity it was found that compound 6 and 20 shows the same activity with antifungal comparison drug fluconazole.

Conclusions

The compounds show a moderate biological effect. Some regularities between chemical structure and biological activity are revealed.

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Modern principles of pharmacotherapy of cardiovascular diseases on the basis of evidential medicine

Sakhanda I. V.

Department of Pharmacy and Industrial Technology of Drugs

Bogomolets National Medical University, Kyiv, Ukraine

sahanda.ivanna@ukr.net

International and domestic practice shows that one of the most important areas of modern medicine is the systematic introduction of a comprehensive system of regulatory support for the provision of medical care through standardization and certification work in the health care of Ukraine. The regulatory system enables the protection of the rights of citizens