



**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я
ЗАПОРІЗЬКИЙ ДЕРЖАВНИЙ МЕДИКО-ФАРМАЦЕВТИЧНИЙ
УНІВЕРСИТЕТ**

ЗБІРНИК ТЕЗ ДОПОВІДЕЙ

**ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ
КОНФЕРЕНЦІЇ З МІЖНАРОДНОЮ УЧАСТЮ**

«Запорізький фармацевтичний форум – 2025:

***Фармація майбутнього –
від сучасного стану до глобальних викликів»***

20–21 листопада 2025 р.



***Запоріжжя
2025***

2. Кальченко В. В., Щербина Р. О., Панасенко О. І., Саліонов В. О., Морозова, Л. П.. Дослідження антиоксидантного потенціалу деяких похідних 5-(2-бром-4-флуорофеніл)-4-етил-1,2,4-триазол-3-тіолу. *Одеський медичний журнал*, (2024) (5), 89–94. DOI: <https://doi.org/10.32782/2226-2008-2024-5-15>.

ANTIRADICAL ACTIVITY OF A SERIES OF NOVEL 6-SUBSTITUTED 3-R-2H-[1,2,4]TRIAZINO[2,3-C]QUINAZOLIN-2-ONES

A.O. Kinichenko¹, I.S. Nosulenko²

^{1,2}Zaporizhzhia State Medical and Pharmaceutical University (Zaporizhzhia, Ukraine)
kinichenko.a.a@zsmu.edu.ua¹, nosulenko.i.s@zsmu.edu.ua²

The investigation of the antiradical activity of compounds constitutes an integral part of a comprehensive assessment of their potential as biologically active agents. This approach is justified by the accessibility of the corresponding analytical techniques and by the wide range of biological activities that are closely associated with antiradical and antioxidant properties. Compounds exhibiting pronounced antioxidant and antiradical effects are considered promising candidates for further studies aimed at the development of anti-ischemic, cardioprotective, hepatoprotective, and anti-inflammatory pharmaceutical agents. Among the numerous methods used to evaluate antiradical activity, one of the most widely applied is based on the interaction with the 2,2-diphenyl-1-(2,4,6-trinitrophenyl)hydrazin-1-yl radical (DPPH) [1]. This method has gained extensive application for determining the antiradical activity of both natural and synthetic compounds due to its high accessibility, procedural simplicity, and reproducibility of the obtained results.

This particular method was selected for the preliminary evaluation of the pharmacological potential of a series of previously unknown 6-substituted 3-R-2H-[1,2,4]triazino[2,3-c]quinazolin-2-ones (compounds **1–6**, Fig. 1), which were synthesized by Assoc. Prof. K. P. Shabelnyk and Ph.D. O. A. Hrytsak at the Department of Pharmaceutical, Organic and Bioorganic Chemistry, Zaporizhzhia State Medical and Pharmaceutical University.

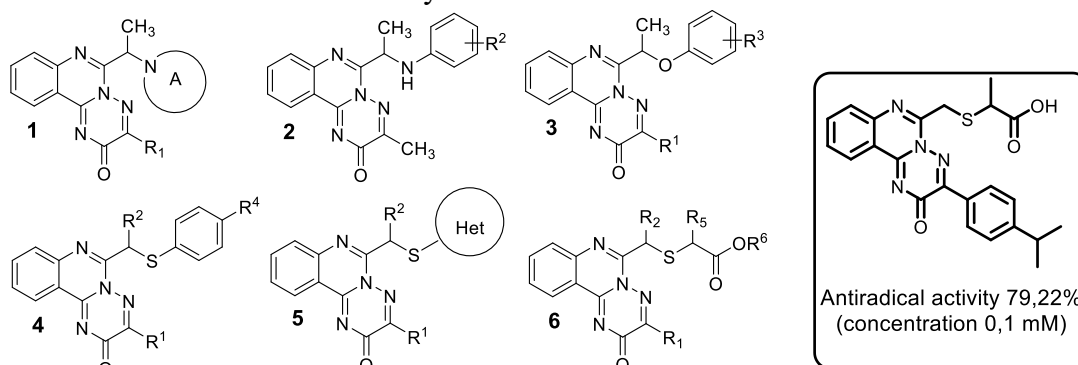


Fig. 1 The structure of the studied compounds.

The obtained results demonstrated that compounds **1**, **3**, and **4** exhibited no antiradical activity, whereas certain representatives of class **2** showed moderate activity. Compounds of series **5** displayed considerable variation in antiradical properties depending on the structure of the heterocyclic substituent at position 6 of the [1,2,4]triazino[2,3-c]quinazoline core. The most active compound, 2-(((3-(4-isopropylphenyl)-2-oxo-2H-[1,2,4]triazino[2,3-c]quinazolin-6-yl)methyl)thio)propanoic acid (Fig. 1), demonstrated a higher antiradical effect than the reference compound (ascorbic acid). It was established that within the investigated series, compounds containing a thiomethyl fragment exhibited superior antiradical activity. The obtained results indicate the promise of several studied compounds as potential biologically active agents. In future research, these compounds are planned to be investigated for pharmacological activities associated with their antiradical properties.

References:

1. Gulcin, İ., Alwasel, S.H. DPPH Radical Scavenging Assay. *Processes*. 2023, Vol. 11. P. 2248. <https://doi.org/10.3390/pr11082248>.

ОЦІНКА ОСНОВНИХ ХАРАКТЕРИСТИК ПРОТИТУБЕРКУЛЬОЗНИХ ЗАСОБІВ, ЩО ЗНАХОДЯТЬСЯ В ОБІГУ НА ТЕРИТОРІЇ УКРАЇНИ	146
<i>Н. Червоненко, Т. Зарічна</i>	
ПЕРСПЕКТИВИ РОЗРОБКИ ЛІКІВ НА ОСНОВІ 1,2,4-ТРИАЗОЛУ ДЛЯ БОРОТЬБИ З ОСТЕОАРТРОЗОМ.....	147
<i>Л. Чмельова</i>	
ДО СТВОРЕННЯ ІНТРАНАЗАЛЬНОЇ ФОРМИ ДЛЯ КОРЕКЦІЇ ТРИВОЖНИХ РОЗЛАДІВ У ПОСТТРАВМАТИЧНИХ СТАНАХ	148
<i>В. Чмирь, Б. Бурлака</i>	
РОЛЬ АПТЕЧНИХ ЗАКЛАДІВ У МЕНЕДЖМЕНТІ ПАЦІЄНТІВ ІЗ ОЖИРІННЯМ	149
<i>Т. Шаповал, А. Кабачна</i>	
IN SILICO ANALYSIS OF 9'-METHYL-6'H-SPIRO[CYCLOALKYL-1,5'-TETRAZOLO[1,5- c]QUINAZOLINE] DERIVATIVES WITH POTENTIAL BIOLOGICAL ACTIVITY.....	151
<i>О. Avgaitis, О. Antypenko, Т. Britanova</i>	
DETERMINATION OF FLAVONOIDS IN THE HERB OF <i>GAZANIA RIGENS</i> 'TIGER STRIPES' BY HPLC	152
<i>В. Basaraba, V. Boiko</i>	
DERIVATIVES OF N-((5-PHENYL-6,11-DIHYDRO-5H-[1,2,4]TRIAZOLO[1',5':1,6]PYRIDO[3,4- B]INDOL-2-YL)METHYL)-R-CARBOXYLIC ACID: SYNTHESIS AND THEIR PROPERTIES	153
<i>В. Fedotov</i>	
QUALITATIVE AND QUANTITATIVE STUDY OF FLAVONOIDS IN <i>IRIS GERMANICA</i> L. FROM UKRAINE	154
<i>В. Homonets, О. Gerush</i>	
SYNTHESIS AND PROPERTIES OF S-DERIVATIVES OF 5-(2-BROMO-4-FLUOROPHENYL)-4- PHENYL-1,2,4-TRIAZOLE-3-THIOL.....	155
<i>В. V. Kalchenko, R. O. Shcherbyna</i>	
ANTIRADICAL ACTIVITY OF A SERIES OF NOVEL 6-SUBSTITUTED 3-R-2H-[1,2,4]TRIAZINO [2,3-C]QUINAZOLIN-2-ONES.....	156
<i>А.О. Kinichenko, I.S. Nosulenko</i>	
<i>SOLIDAGO CANADENSIS</i> L. HERB EXTRACTS AND THEIR 3D-PRINTED DOSAGE FORMS – PROMISING AGENTS WITH ANTIMICROBIAL, ANTI-INFLAMMATORY AND HEPATOPROTECTIVE ACTIVITY	157
<i>Оleh Koshovyi, Yurii Hrytsyk, Jyrki Heinämäki, Ain Raal</i>	
REGARDING THE STANDARDIZATION OF GLYCINE AND THIOTRIAZOLINE IN THE MODEL MIXTURE BY HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY.....	158
<i>В. Kucherenko, О. Khromylova, G. Nimenko, L. Cherkovska</i>	
THE INVESTIGATION TOTAL CONTENT OF HYDROXYCINNAMIC ACIDS IN THE BLACKBERRY (<i>RUBUS PLICATUS</i> Weihe & Nees) LEAVES	159
<i>А. Marchenko, M. Komisarenko, О. Maslov</i>	
PARACOXIB IN MULTIMODAL ANALGESIA: EXPERIMENTAL POTENTIATION BY CENTRALLY ACTING ADJUVANTS.....	160
<i>В. Matvieienko, F. Hladkykh, M. Chyzh, О. Oliinyk</i>	
STUDY OF THE FLAVONOID CONTENT IN THE INFLORESCENCES OF <i>HYDRANGEA</i> <i>MACROPHYLLA</i>	160
<i>В. Muzyka, K. Tupyshka</i>	
ENVIRONMENTAL SUSTAINABILITY, DRUG REPURPOSING, AND PRICING. PATHWAYS TO ALIGN VALUE, ACCESS, AND POLICY	161
<i>В. Nerea Blanqué Catalina</i>	