

The researching of expiration date for substances of potassium 2-((4-amino-5-(morfolinometyl)-4H-1,2,4-triazole-3-yl)thio)acetate (PKR-173) by "accelerated aging" method

Shcherbyna R.O.¹, Maletskyy M.M.²

¹The Department Of Natural Sciences For Foreign Students And Toxicological Chemistry

²Department of Drug Technology

Zaporizhzhia State Medical University, Zaporizhzhya, Ukraine

rscherbyna@gmail.com

Modern pharmaceutical science is complex and massive structure, that is focused on the research and development of new effective and not toxic drugs. The process of creating drugs is very time-consuming and involves many stages of research, not only biological action but chemical and technological aspects. Thus, an important step in this direction is to study the expiration date of drug substances.

Accelerated stability testing of drugs can be used in the development of new drugs to accelerate comparative study of the various options processing methods. Accelerated testing is carried out at higher compared to long-term tests with temperature and humidity higher compared with the expected storage conditions. This allows to set a longer initial expiration date which follows from the results of existing long-term storage.

S-1,2,4-triazoles derivatives exhibit a wide range of biological effects. Among them are found antimicrobial, diuretic, antioxidant, cardioprotective, hepatoprotective drugs. Very promising compound is potassium 2-((4-amino-5-(morfolinometyl)-4H-1,2,4-triazole-3-yl)thio)acetate (PKR-173) which has antioxidant and hepatoprotective activity along with low toxicity.

The purpose of these studies was to determine the stability of the substance potassium 2-((4-amino-5-(morfolinometyl)-4H-1,2,4-triazole-3-yl)thio)acetate (PKR-173) in ampoules by "accelerated aging " method.

The studying of suitability substance potassium 2-((4-amino-5-(morfolinometyl)-4H-1,2,4-triazole-3-yl)thio)acetate (PKR-173) was carried out according to the "Temporary guidelines for determining of the expiration date which is based on "accelerated aging" method at elevated temperature (I-42-2-82).

The method consists of exposure studied dosage form at elevated temperature in excess of the average temperature storage (20 ° C). "Accelerated aging" method was performed at 40 °C. Ampoules of substance (3 series) put in oven (TS-80) during storage controlling quantitative active ingredient. A frequency control quality indicator was on 60 days. The experimental storage was performed for 0,5 year, which corresponds to 2 years of the

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

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



Серія «Наука»

**«ЗАСТОСУВАННЯ МЕТОДІВ ЛІКУВАННЯ І АПІПРЕПАРАТІВ
У МЕДИЧНІЙ, ФАРМАЦЕВТИЧНІЙ
ТА КОСМЕТИЧНІЙ ПРАКТИЦІ»**

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

25 березня 2020 р.

**Харків
НФаУ
2020**

expiration date of the drug at room temperature. Quantitative analysis of substance potassium 2-((4-amino-5-(morpholinomethyl)-4H-1,2,4-triazole-3-yl)thio)acetate (PKR-173) showed that the loss of active ingredient in the process of "accelerated aging" method at 40 °C after 180 days are not registered.

The study found that after the expiry of experimental storage (40 °C), corresponding to a two-year shelf life, that corresponds to TFS. It is necessary to store the preparation in a place protected from light from the possibility of oxidation, since the composition includes a divalent sulfur atom.

Thus, the expiration date of named substance at rated temperature (20 °C) can be stated for at least 2 years, which allows to specify the term in the project documentation..

References:

1. Good practice in pharmacy: Teach methods. Guide for students V course (Module 1) pha. faculty specialty "Pharmacy" / L.G. Cherkovska, M.O. Avramenko, A.V. Krivoshey [et al.]. - Zaporozhye: ZSMU, 2017. - 71 p.

2. Shcherbyna, R., Parchenko, V., Varynskyi, B., & Kaplaushenko, A. (2019). The development of HPLC-DAD method for determination of active pharmaceutical ingredient in the potassium 2 - ((4-amino-5- (morpholinomethyl) -4H-1,2,4-triazol-3-yl) thio) acetate substance. *Current Issues in Pharmacy and Medical Sciences*, 32 (1), 5-9.

3. Shcherbyna, R., & Vashchyk, Y. (2019). The research of 1, 2, 4-triazole derivatives hepatoprotective activity under tetracycline and infectious hepatitis. *Ankara Üniversitesi Eczacılık Fakültesi Dergisi*, 43 (2), 135-146.

4. Shcherbyna, R. A., & Vashchyk, YV (2018). Histological study of potassium 2 - ((4-amino-5- (morpholinomethyl) -4H-1, 2, 4-triazole-3-yl) thio) acetate (PKR-173) corrective influence on the chickens liver state in the condition of tetracycline hepatitis.

Substantiation of the development of a combined suspension with hydrophilic phenolic fraction of propolis for use in pediatrics

Yuryeva G.B., Yarnykh T.G.

Technology of Drugs Department

National University of Pharmacy, Kharkiv, Ukraine

tl@huph.edu.ua

Acute intestinal infections are one of the leading places in pediatrics infectious pathology. This is due in particular to the fact that environmental degradation adversely