

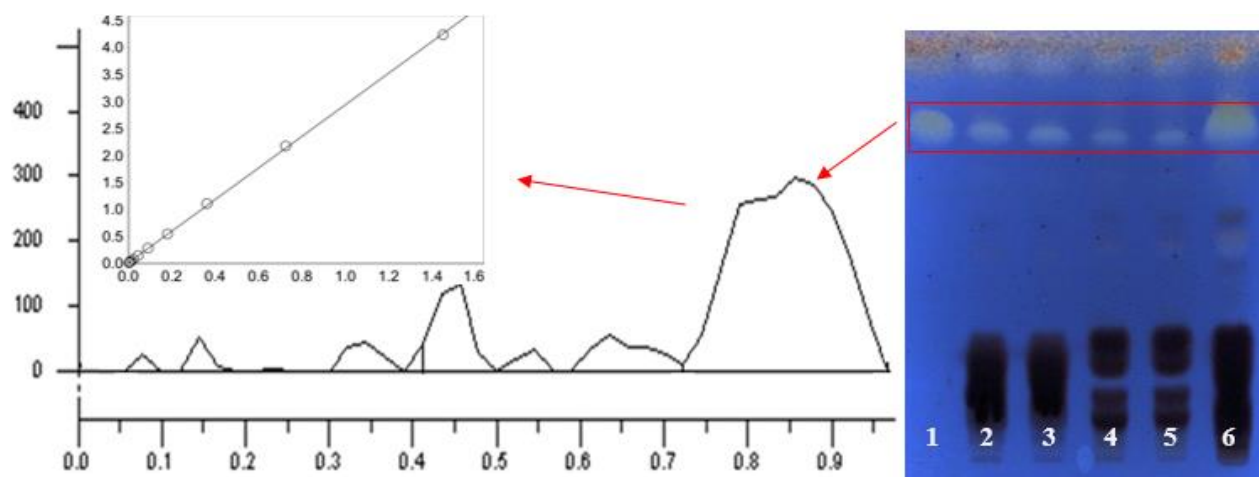
МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ

**TOPICAL ISSUES OF NEW MEDICINES  
DEVELOPMENT**

МАТЕРІАЛИ  
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**Figure 1.** The qualitative and quantitative graphic of 10-HDA determination from analyzed samples:  
1- standard solution; 2,3- tablets; 4,5-capsules; 6-raw material of royal jelly

**Conclusion.** A Thin Layer Chromatography (TLC) method for the separation and determination of 10-HDA in food supplements (such as lyophilized tablets, capsules) and raw materials obtained from Germany was developed and validated according to ICH guidelines.

### SEARCH OF REAGENTS FOR THE ANALYTICAL DIAGNOSTICS OF COMBINED PROCHLORPERAZINE PROBLEMS

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**Introduction.** Acute poisoning with psychotropic drugs is often associated with their use for self-medication and suicidal purposes. According to various sources, up to 40% of cases of poisoning with psychotropic drugs are observed in patients with mental illness. Prochlorperazine is a phenothiazine derivative used as a neuroleptic drug for the treatment of schizophrenia, anxiety disorders and migraines. It is also effective for the treatment of nausea and vomiting. To date, prochlorperazine is produced as a generic agent in many countries of the world in various pharmaceutical forms. A significant number of trade names and manufacturers increases the availability of treatment for the aforementioned diseases. However, there is an increased risk of complications due to side effects and overdose of prochlorperazine.

**Aim.** Search for reagents for the detection of prochlorperazine in seizures from biological objects with combined poisoning by drugs.

**Materials and methods.** The studies used drugs that were withdrawn from the appropriate dosage forms (tablets): prochlorperazine, aminasin, triftazine and ibuprofen. Chromogenic reagents: FPN,  $\text{FeCl}_3$ , Marquis, Froehde, Mandelin and Liebermann.

**Results and discussion.** In the domestic literature, data on the side effects and effects of acute prochlorperazine poisoning are briefly described, while in the foreign and on the websites Food and Drug Administration (FDA), patientville.com and ehealthme.com for more details. According to these sites, a number of cases of acute poisoning have been recorded in many countries of the world. In particular, in the period from 2010 to 2016, 258 cases were reported in controlled and uncontrolled use of prochlorperazine. Among the main causes of acute poisoning are side effects of the drug during treatment in therapeutic doses, while fatal cases are mainly due to suicidal overdose of the drug in doses that exceed the therapeutic ones dozens of times, as the case may be. The risk of poisoning is aggravated by factors such as alcohol consumption, drug therapy, liver disease, kidneys, etc.

So, according to sites patientville.com. and ehealthme.com combined prochlorperazine poisoning have been caused by drug interactions, drug misuse, unintentional and intentional overdose,

depression, multiple sclerosis, alcohol consumption, etc. The number of cases of suicides is alarming, which is 8% of the total number of registered prochlorperazine poisonings. Symptoms of overdose: extrapyramidal disorders, deep sleep, coma, rarely – convulsions, hypotension, fever, heart rhythm disturbance. The main drugs that were used simultaneously with prochlorperazine in suicide were: clonazepam, lorazepam, aprazolam, ibuprofen, naproxen, diazepam, seroquel, depakot. In cases of combined poisoning with prochlorperazine and certain drugs, a search for reagents for their detection in seizures from biological objects was performed. The results of the studies are presented in the table.

*Table*

Results of chromogenic reactions with prochlorperazine, some derivatives of phenothiazine and ibuprofen

Drug	Reagents						
	FPN	FeCL <sub>3</sub>	Marquis	Froeh-de	Mandelin	Liebermann	Erdman
Prochlorperazine	pink	pink	pinkish-red	orange → brown → violet	bright pink	pink	pink
Aminazin	pink	pink	pink → violet	orange → red → violet	bright pink	red-violet	red-violet
Ibuprofen	-	orange → yellow	-	blue-violet	-	red → brown	light brown
Triftazin	orange-pink	orange-yellow	orange-red	red → violet	orange-red	pink	orange-red

**Conclusions.** An analytical review of the toxicological consequences of the use of prochlorperazine has been carried out. It is established that in the period from 2010 to 2016 in the world there are 258 cases of acute poisoning with this drug in various circumstances. A number of chromogenic reagents for analytical diagnostics of combined poisonings with prochlorperazine, which form various substances with the substances studied, are determined.

## DETERMINATION OF POLYUNSATURATED OMEGA-3 AND OMEGA-6 FATTY ACIDS IN BEE PRODUCTS BY GAS CHROMATOGRAPHY METHOD

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**Introduction.** Polyunsaturated (omega-3 and omega-6) fatty acids are important for human health, but these fatty acids are irreplaceable and human body can't produce them, so they must come from nutrition. The optimal recommended ratio of omega-6 to omega-3 in human diet is 1-4:1, but nowadays it is 15-20:1 or even higher, indicating that the intake of omega-3 fatty acids is much lower than needed. This high ratio of omega-6 fatty acids may increase inflammation in the body, which may contribute to chronic health problems such as obesity, diabetes, metabolic syndrome, cardiovascular diseases, arthritis or depression. So it is important to get enough omega-3 fatty acids from nutrition and bee products can be beneficial for human healthy diet, as source of polyunsaturated fatty acids.

**Aim.** To compare quantity of polyunsaturated fatty acids and the ratio of omega-3 to omega-6 in marketable bee products as food supplements, their raw material and bee products from beekeeper.

**Materials and methods.** In this research were investigated fourteen bee products: seven of them were marketable bee products as food supplements (bee pollen tablets, bee pollen tablets with bee bread, bee pollen tablets with propolis, bee bread pastilles, royal jelly tablets, honey tea with propolis and tablets for eyes with blueberries and royal jelly), three of them were raw material of bee products as food supplements (bee pollen, bee bread and propolis) and four of them were bee products from beekeeper (honey, bee pollen, bee bread and propolis).