



**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ
КАФЕДРА КЛІНІЧНОЇ ЛАБОРАТОРНОЇ ДІАГНОСТИКИ,
МІКРОБІОЛОГІЇ ТА БІОЛОГІЧНОЇ ХІМІЇ**



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NATIONAL UNIVERSITY OF PHARMACY
DEPARTMENT OF CLINICAL LABORATORY DIAGNOSTICS,
MICROBIOLOGY AND BIOLOGICAL CHEMISTRY**



**ЗБІРНИК
публікацій
II Міжнародної науково-практичної
online конференції
«СУЧАСНІ ДОСЯГНЕННЯ ЕКСПЕРИМЕНТАЛЬНОЇ,
КЛІНІЧНОЇ, ЕКОЛОГІЧНОЇ БІОХІМІЇ ТА
МОЛЕКУЛЯРНОЇ БІОЛОГІЇ»**

**BOOK
of publications
of II International scientific and practical
online conference
"MODERN ACHIEVEMENTS OF EXPERIMENTAL,
CLINICAL, ENVIRONMENTAL BIOCHEMISTRY AND
MOLECULAR BIOLOGY"**

**07 листопада 2025 р.
м. Харків, Україна
November 07, 2025
Kharkiv, Ukraine**

структури клітинної мембрани при заморожуванні, оскільки без заморожування різниці дії перексиду водню на ОЩ суспензій інтактних клітин та клітин у кріоконсервантах не виявляється.

4. Підвищення стійкості еритроцитів, кріоконсервованих у модифікованому кріоконсерванті, до шкідливої дії окислювального стресу, може забезпечити підвищену стійкість до гіпотермічного зберігання. Крім того, еритроцити, кріоконсервовані у зазначеному кріоконсерванті можуть мати стійкість до окислювального стресу в руслі крові при переливанні пацієнтам, які страждають на гематологічні захворювання, а також на злякисні новоутворення.

LORATEDINE IN COMBINATION WITH *BUPLEURUM AUREUM* PHYTOCOMPONENT: A NEW APPROACH TO THE TREATMENT OF ALLERGIC DISEASES IN CHILDREN

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Introduction. Modern pharmacotherapy of allergic diseases requires the development of safe, effective and hepatoprotective agents, especially for pediatric practice. The combination of the synthetic antihistamine loratadine with the extract of *Bupleurum aureum* opens new possibilities in the direction of combining antiallergic, anti-inflammatory and antioxidant effects.

The aim of the research. Prospects for the use of a combined preparation of loratadine with *Bupleurum aureum* extract.

Materials and methods. A literature review was conducted in international peer-reviewed journals and databases (PubMed, PMC). Selected sources cover the last 5-10 years and include *in vitro* and *in vivo* studies.

Results and discussion. Loratadine is a second-generation selective histamine H1 receptor antagonist. Its main action is associated with blocking histamine receptors without penetrating the blood-brain barrier, which ensures the absence of a sedative effect. In biochemical terms, loratadine also exhibits antioxidant activity, reducing the level of malondialdehyde and increasing the activity of superoxide dismutase in hepatocytes. It is metabolized mainly by the CYP3A4 and CYP2D6 systems in the liver with the formation of the active metabolite desloratadine. *Bupleurum aureum* extract contains flavonoids (quercetin, rutin, isorhamnetin), saponins, phenolic acids and terpenoids, which cause antioxidant, anti-inflammatory, diuretic and immunomodulatory effects. Biochemically, *Bupleurum aureum* flavonoids inhibit cyclooxygenase-2 (COX-2) activity and reduce the expression of TNF- α , IL-6, and

other pro-inflammatory cytokines. *Bupleurum aureum* extract has been shown to exhibit hepatoprotective properties, reducing ALT, AST, and bilirubin levels in experimental models of toxic liver injury.

The combined use of loratadine and *Bupleurum aureum* extract can provide a synergistic effect: flavonoids enhance the antioxidant protection of liver cells and stabilize cell membranes, loratadine reduces histamine-mediated vascular permeability, which in total reduces systemic inflammation, allergic reactions and oxidative stress. Such a combination is promising for use in children with allergic diseases that are accompanied by impaired liver function or require long-term use of antihistamines. Further studies will be aimed at creating a dosage form in the form of a syrup with a mild hepatoprotective effect.

Conclusions. The biochemical interaction between loratadine and *Bupleurum aureum* extract forms the basis for the creation of a new generation of combined antihistamines with additional antioxidant and anti-inflammatory properties. This opens prospects for their implementation in pediatric allergology and pharmacotherapy, taking into account the hepatoprotective potential of the phytocomponent.

EFFECT OF *BUPLEURUM AUREUM* EXTRACT AND ITS COMBINED USE WITH LORATADINE ON LIPID PEROXIDATION INDICATORS UNDER THE ACTION OF CADMIUM CHLORIDE *IN VITRO*

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Introduction. Today, pharmaceutical sciences and medicine are faced with the urgent problems of studying the negative impact of xenobiotics and finding ways to correct these pathologies. Data is rapidly accumulating, indicating that many stress factors, xenobiotic poisoning, including the negative impact of drugs, cause a shift in the balance in the pro-oxidant-antioxidant system and the development of oxidative stress. Therefore, an urgent problem is to study the impact of various substances that may have antioxidant properties on the studied indicators.

The aim of the work – to investigate the effect of dry extract of *Bupleurum aureum* (DEBA) and its combined use with the drug loratadine on lipid peroxidation indices in vitro under the influence of cadmium chloride.

Materials and methods. *In vitro* experiments were carried out to determine the antioxidant properties of dry DEBA and the combination of loratadine with DEBA. For this purpose, blood serum and liver cytosol of male white rats weighing