



full-cycle
biotechnological
company

 Petrovax

Petrovax is a full-cycle Russian biotechnological company with 25 years of successful experience



- Product portfolio includes original pharmaceutical products, contract medicines and food supplements.
- R&D center, patents for molecules and technologies in Russia and abroad.
- Biotechnological manufacturing in accordance with the EAEU and EU GMP standards.
- One of the largest exporters of influenza vaccines and original pharmaceutical products.
- Partner of international Big Pharma companies.



The company's investment strategy is aimed at investigation, production development and import substitution of medicines and vaccines used in the treatment of socially significant conditions, such as oncological, autoimmune, infectious and orphan diseases.

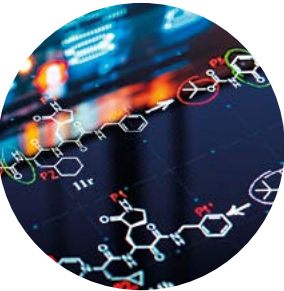
corporate values



Research center and vivarium for preclinical studies allow to carry out a full cycle of development and implementation of medicinal products

Petrovax is the holder of patents for new molecules and pharmaceutical manufacturing technologies in Russia and abroad. The company's investment program ensures financing of advanced R&D projects.

- Search for innovative molecules and conducting preclinical studies.
- In-depth study of the mechanism of action in terms of the pathogenesis of a corresponding disease.
- Proof of the safety and efficacy of drugs in preclinical studies.
- Development of quality control methods and manufacturing technologies.
- Conducting of clinical studies in accordance with GCP standards.
- Introduction of innovative technologies, development and optimization of manufacturing processes.



International clinical trials (CTI)

- International multicenter clinical study of the efficacy and safety of the Convidecia COVID-19 vaccine in cooperation with CanSino Biologics with participation of 40,000 volunteers (2020).
- International Multicenter Phase 3 Clinical Study of Efficacy and Safety of Polyoxidonium® in Complex Therapy of Patients with COVID-19 (2020).

research & development





advanced
manufacturing
facilities



The biotechnological production operates in accordance with the EAEU and EU GMP standards

The manufacturing processes include the synthesis of APIs, the production of sterile and non-sterile medicines, such as immunological and biopharmaceutical medicines in various dosage forms.

160
million doses
of drugs per year



- Line 1 — manufacturing of medicines in pre-filled syringes
- Line 2 — manufacturing of medicines for injection, including lyophilizates
- Line 3 — synthesis of APIs, manufacturing of soft and solid dosage forms
- Line 4 — manufacturing of injectable dosage form

The company has implemented and effectively operates a GMP certified pharmaceutical quality system (PQS), confirmed by international partners' audits



- The company cooperates only with approved suppliers of raw and other materials.
- Quality control of manufactured pharmaceutical products and vaccines is guaranteed at all stages of production, from the sampling of raw materials to the control of finished products. More than a hundred people work in the quality service.
- The pharmacovigilance system operates in accordance with the international standards and Russian regulatory requirements to ensure medicine product safety surveillance.

product portfolio

Rx & OTC

Polyoxidonium® / Полиоксидоний®

INN: Azoximer bromide

Original product with complex effect for treatment and prevention of infectious diseases

In 2008 the World Health Organization (WHO) assigned the international non-proprietary name (INN) to the Russian medicine Polyoxidonium®¹.

immunocorrective
detoxifying
anti-inflammatory

complex
effect



for adults and children over 1 year of age



for adults and children over 1 year of age



for adults and children over 3 years of age



for adults and children over 6 months of age

4 SKU

with Rx & OTC status

>2.8 million packs
are sold annually

>150 clinical trials
and scientific researches
involving over 14,700 patients
aged from 6 months to 90 years

25
years
of clinical
experience

in 10 countries,
including Europe

Indications for use

Polyoxidonium® is used in adults and children for the treatment and prevention of infectious and inflammatory diseases (viral, bacterial and fungal etiology) at any stage.

Therapeutic applications:

- immunology
- infectious diseases
- phthysiology
- oncology
- rheumatology
- surgery
- gynecology
- urology
- allergic diseases



<https://polyoxidonium.com>



<https://fdasis.nlm.nih.gov/srs/unii/90g53638zd>

¹ WHO Drug Information, Volume 22, N° 1, 2008



wide range
of therapeutic
applications

doctors' choice
for adhesion
processes
and fibrosis

Longidaza®

Лонгидаза®

INN: bovyhialuronidase azoximer

The original enzyme medicine for complex
treatment of diseases accompanied by
connective tissue hyperplasia

In 2015, the World Health Organization (WHO) assigned
the international non-proprietary name (INN) to the Russian
drug Longidaza®¹.



hyaluronidase (enzyme),
directly affecting fibrosis through the breakdown of
pathological connective tissue glycosaminoglycans

+

high-molecular weight agent
with anti-inflammatory effect, prolonging
the action of the enzyme

Longidaza®

17
years
of clinical
experience

Doctors' choice
for the treatment of
adhesions and fibrosis²

3 SKU
with Rx & OTC status

>1.5 million packs
are sold annually

Therapeutic applications:

- gynecology
- urology
- pulmonology
- rheumatology
- surgery
- dermatology
- cosmetology
- phthisiology



<https://www.longidaza.ru>



In 2020-2021, the DISSOLVE study was conducted to assess the efficacy
and safety of Longidaza® in patients who had COVID-19³.

¹ WHO Drug Information, Volume 29, N° 3, 2015

² PrIndex—Q4 2021

³ Chucalin AG, Ann Clin Med Case Rep. 2022; V10(2): 1-9



infectious
disease
prevention

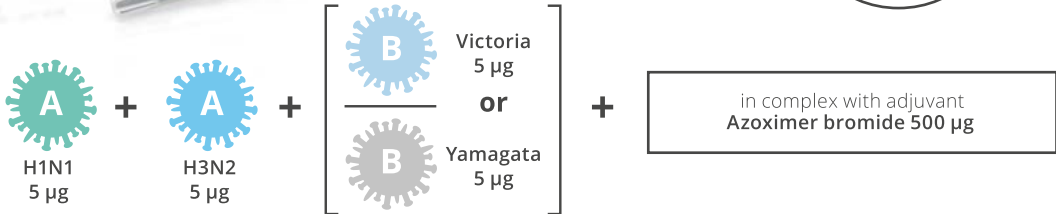
Grippol® plus
Гриппол® плюс

TRIVALENT inactivated subunit adjuvanted
influenza vaccine



>160 million doses
in Russia and other countries

14
years
of clinical
experience

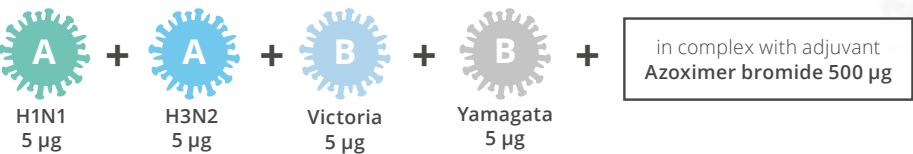


Indications: for the prevention of influenza in children over 6 months of age, adolescents and adults without age restrictions, including pregnant women, the elderly, adults with chronic diseases of central nervous, cardiovascular, and bronchopulmonary diseases, autoimmune, allergic diseases, and immunodeficiency conditions

Grippol®
Quadrivalent
Гриппол® Квадживалент

QUADRIVALENT inactivated subunit adjuvanted
influenza vaccine

Indications: for prevention of influenza in children and adults from 6 to 60 years of age. Protects against four influenza viruses: A/H1N1, A/H3N2 and two influenza B virus lines (Yamagata and Victoria).



Grippol® vaccines
benefits



<https://grippol.ru>

- **The composition of antigens is updated annually in accordance with WHO recommendations.**
- **The azoximer bromide** adjuvant in vaccines promotes a strong humoral and cellular immune response.^{1,2,3}
- **Free from preservatives and antibiotics.**
- Available in individual pre-filled syringes with atraumatic needles.

¹ Low-dose influenza vaccine Grippol Quadrivalent with adjuvant Polyoxidonium induces a T helper-2 mediated humoral immune response and increases NK cell activity Vladimir Talayev et al., Vaccine Volume 38, Issue 42, 29 September 2020, Pages 6485-6486
² Front. Immunol., Cytokine Profile in Human Peripheral Blood Mononuclear Leukocytes Exposed to Immunoadjuvant and Adjuvant-Free Vaccines Against Influenza, M. Kostinov, 30 June 2020
³ Kompier R, Neels P, Beyer W et al. Analysis of the safety and immunogenicity profile of an azoximer bromide polymer-adjuvanted subunit influenza vaccine. F1000Research 2022, 11:259

OTC



Velson® / Велсон®

INN: melatonin

A modern medicine for sleep and circadian rhythms' normalization

Helps you to fall asleep in just 20 minutes, sleep deeply during the night, and wake up easily in the morning. Positive effect on memory, brain function, performance, emotional-personal sphere, and reduction of stress reactions. Non-addictive (no delayed insomnia or withdrawal symptoms after 6 months of treatment).

Bad dreams won't scare you anymore!



<https://velson24.ru>

Imoferaza® / Имофераза®

Product for specialized care of scars and cicatrical tissue

Cosmetic cream based on immobilized hyaluronidase enzyme, specifically produced for the care of scar tissue of various origins. Smooths skin texture and tone after acne, burns, trauma, plastic surgery, cosmetic procedures, and tattoo removal.

Imoferaza® affects both primary and secondary scars.



<https://imoferaza.ru>



Gialera® / Гиалера®

Combination of sodium alginate and high molecular weight hyaluronic acid provides a comprehensive approach for heartburn

The formula helps to reduce heartburn and other discomfort and supports esophageal mucosa, therefore allowing less occurrence and lower intensity of future episodes. Gialera has pleasant taste of a fresh pear.



<https://gialera.ru>



ARTNEO® / АРТНЕО®

Five-component complex for joint and spine health

An innovative composition with a special, native collagen with a radically new mechanism of action. Specially selected ingredients — undenatured collagen type II, MSM, boswellic acids, vitamins C and D3 have a complex effect, helping to reduce discomfort, swelling, painful feelings, stiffness, as well as restoring and maintaining functional status of joints and spine.



<https://artneo-collagen.ru>

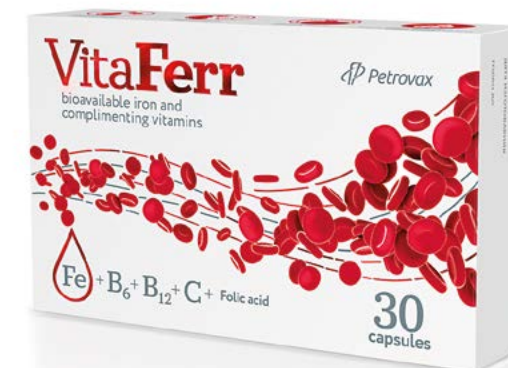
VitaFerr® / ВитаФерр®

The latest generation of iron fortified with vitamins and folates for better absorption

The optimal choice for replenishing iron levels. Contains iron in the form of bisglycinate, which ensures a high level of its bioavailability and minimizes the risk of side effects. The composition includes components for better absorption of iron and hematopoiesis: vitamin B6, B12 and L-methylfolate (a derivative of folic acid).



<https://vitaferr.ru>



Uronext® / УРОНЕКСТ®

Complex remedy for urinary tract infections

Contains an optimal combination of three active ingredients: D-mannose, D3 vitamin and Cran-Max (a patented North American cranberry extract with increased bioavailability) and D3 vitamin. A product of European quality with a favorable safety profile — can be used for diabetic patients, pregnant and breast-feeding women*.



<https://uronext.ru>

*On the recommendation and under the supervision of a doctor

food supplements

food supplements

Petrovax

international partnership

Abbott

2008

A unique biopharmaceutical project in the scientific and industrial spheres

In cooperation with Abbott (previously, Solvay Pharma), a biopharmaceutical project to build a modern pharmaceutical complex for the development and production of immunobiological drugs in the Moscow region has been successfully implemented. In 2008, for the first time in Russia, the release of influenza vaccine Grippol® plus in disposable syringes without the preservative thiomersal was launched. It is one of the most exported influenza vaccines in Russia¹ and is part of the state immunization programs of several countries.

2014

Pfizer

The first project on import substitution of high-tech vaccines in Russia

In partnership with Pfizer, a project was implemented for the first time to introduce the technology for the full cycle of production of finished dosage forms, control and quality assurance of the 13-valent pneumococcal conjugate vaccine Prevenar® 13 in Russia. Since 2014, more than 35 million doses of the vaccine have been delivered to the Russian market, significant results in reducing mortality caused by pneumonia among children of the first year of life have been achieved — 56% reduction noted².

2017

Boehringer
Ingelheim

Localization of biopharmaceutical drugs for the treatment of cardiovascular diseases

Throughout cooperation with the international company Boehringer Ingelheim, the local production of Actilyse® and Metalyse® drugs for the treatment of cardiovascular diseases were introduced to the acute phase of heart attacks and ischemic strokes treatment. The use of these drugs today is the "gold standard"³ of thrombolytic therapy. Petrovax is the second site in the world to produce innovative Boehringer Ingelheim thrombolytics.

2022

ISU ABXIS

Technology transfer of the full cycle production of the drugs for the treatment of orphan disease, including substance synthesis

In cooperation with the South Korean company ISU Abxis, a project on localization of full-cycle production of agalsidase beta (Fabagal medicine) for the Fabry disease treatment is being implemented. Fabry is an orphan disease, which belongs to the group of lysosomal storage diseases and in the absence of timely diagnosis and therapy it leads to early disability and premature death of patients. As a result of the project, Petrovax will synthesize the substance and produce the finished dosage form.

Prevenar® 13 / Превенар® 13

Pneumococcal polysaccharide conjugate adsorbed vaccine, thirteen valent vaccine

Indications: vaccine for the prevention of pneumococcal infections caused by the bacterium Streptococcus pneumoniae, serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 23F, such as sepsis, bacteremia, meningitis, pneumonia and acute otitis media. Recommended for all ages over 2 months.

Manufactured by Petrovax as a full-cycle manufacturing of the finished dosage form in cooperation with Pfizer.



Metalyse® / Метализе®

INN: Tenecteplase

Innovative thrombolytic for the treatment of acute myocardial infarction

This thrombolytic is recommended for worldwide use with a single bolus injection (in 5-10 seconds), which allows immediate medical care to be provided to patients with acute myocardial infarction at the earliest possible time as part of emergency medical care. Currently, tenecteplase is one of the most extensively studied thrombolytic medicines.

Produced by Petrovax Pharm in cooperation with Boehringer Ingelheim.



Actilyse® / Актилизе®

INN: Alteplase

A biopharmaceutical thrombolytic

The thrombolytic is used for acute myocardial infarction, ischemic stroke and pulmonary embolism treatment.

Produced by Petrovax Pharm in cooperation with Boehringer Ingelheim.

Petrovax

¹ RNC Pharma, Pharmvestnik, <https://pharmvestnik.ru/articles/Strana-nepriznannyh-vakcin.htm>

² <https://rosstat.gov.ru/compendium/document/13269>

³ <https://pubmed.ncbi.nlm.nih.gov/29367334/>

export potential

10 countries
of export

Petrovax has been successfully operating in foreign pharmaceutical markets for more than 20 years:

- one of the largest Russian exporter of influenza vaccines and original pharmaceutical products¹;
- the products are presented in 10 countries, including the EU;
- EU GMP since 2012.

Petrovax has significant competitive advantages:

- original portfolio of innovative products;
- high-tech manufacturing according to international GMP standards;
- R&D investment program and experience in implementing of international projects.

Increasing the export potential and expanding the geography of sales are the strategic goals of Petrovax.

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