

**Instruction
for usage of veterinary drug
«Lestin aqua»**

1 General information

1.1 Lestin aqua (Лестин аква).

International nonproprietary name of active pharmaceutical substance: levofloxacin, colistin.

1.2 The drug is a light yellow or dark yellow liquid. A minor precipitation may occur in the process of storing.

Dosage form: solution for oral application.

1.3 1 milliliter of the drug contains 100 milligrams of levofloxacin, 1 000 000 IU of colistin sulfate, auxiliary substances (hydrochloric acid, sodium pyrosulfite, benzyl alcohol), solvent (purified water).

1.4 The drug is issued in 100-, 500-milliliters and 1-, 3-, 5-, 10-, 15-, 20-, 25-litres polymer package.

1.5 The drug is stored in manufacturer's package according to the B-list in dry, protected from the sun place at temperature of 5°C up to 25°C above zero.

1.6 Shelf life – 24 months from the date of production under storage and transportation conditions. After first opening of the pack – no longer than 7 days. Do not use after expiry date. Unused drug is to be utilized according to legislation requirements.

2 Pharmacological features

2.1 The active ingredients of the exhibit synergism, thereby enhancing the antimicrobial effect and expanding the spectrum of the drug's activity.

The drug obtains a wide spectrum of antimicrobial activity in relation to aerobic gram-positive microorganisms (*Enterococcus* spp., *Listeria monocytogenes*, *Staphylococcus* spp. (including *Staphylococcus aureus*), *Streptococcus* spp.), aerobic gram-negative microorganisms (*Campylobacter* spp., *Enterobacter* spp., *Escherichia coli*, *Haemophilus* spp., *Klebsiella* spp., *Pasteurella* spp., *Proteus* spp., *Pseudomonas* spp., *Salmonella* spp.), anaerobic microorganisms (*Clostridium perfringens*, *Fusobacterium necrophorum*), as well as *Bordetella* spp., *Chlamydia* spp., *Mycobacterium* spp., *Mycoplasma* spp., *Rickettsia* spp.

2.2 Levofloxacin, which is a part of the drug, is a synthetic chemotherapeutic antibiotic from the group of fluoroquinolones. The mechanism of action relates to blockade of DNA gyrase (topoisomerase II) and topoisomerase IV, impairment of supercoiling and cross-linking of deoxyribonucleic acid breaks, inhibition of deoxyribonucleic acid synthesis and profound metabolic changes in the cytoplasm, cell wall and membranes.

Colistin sulfate is an antibiotic of the polymyxin group, binding to the phospholipids of the cytoplasmic membrane, thus increasing its permeability for both intracellular and extracellular components what leads to destruction of bacterial cell wall.

2.3 In the process of the drug's oral application levofloxacin is well and quickly absorbed in the gastrointestinal tract. Consumption of feed has little influence on the speed and completeness of its absorption. The bioavailability of levofloxacin after oral application is 99%, the concentration in blood serum reaches a maximum 2 hours after application, half-life is about 7 hours. Levofloxacin infiltrates well into organs and tissue: lungs, bronchial mucosa, sputum, organs of the genitourinary system, polymorphonuclear leukocytes, alveolar macrophages.

Colistin sulfate is absorbed from digestive tract in small amount, has a local antibacterial effect in digestive tract.

The drug is excreted from body with urine and feces. In case of liver and kidney function's impairment, an increase in the elimination period is possible.

3 Order of application

3.1 The drug is used to treat pigs and poultry with bacterial infections of respiratory, digestive and genitourinary systems, septicemia, escherichiosis (colibacillosis), salmonellosis, pasteurellosis, pseudomonosis, mycoplasmosis, hemophiliasis, bordetellosis, MMA syndrome (mastitis-metritis-agalactia) and atrophic rhinitis pigs, with mixed and secondary bacterial infections, as well as other infectious diseases of bacterial etiology, the pathogens of which are sensitive to components of the drug.

3.2 The drug is applied orally throughout 3-5 days in following doses:

- poultry (broiler chickens, replacements, parental stock, fattening turkeys) – 0,4-0,5-litres of the drug per 1 ton of drinking water

- pigs – 0,3-milliliters per 10 kilograms of animal's body mass with small amount of feed or water individually. Group method requires 0,35-litres of the drug per 1 ton of drinking water. With salmonellosis and in severe cases of disease in pigs, the dose of the drug is doubled.

During treatment period and in case of group administration, animals and poultry should only receive the drug-containing water that should be the only source of drinking. The prepared solution of the drug must be used within 24 hours.

3.3 In case of overdose of the drug a decrease in animal's appetite, as well as depression, vomit and diarrhea may be observed. There is no specific antidote as symptomatic treatment is carried out. If allergic and adverse reactions such as convulsions, tremors, vomiting, hemolytic anemia occur, the usage of the drug is cancelled, and antihistamines and calcium preparations are used.

3.4 Do not use the drug together with tetracyclines, macrolides and amphenicols to avoid decrease in the antimicrobial activity of the drug. It is recommended not to use the drug in conjunction with theophylline and/or non-steroidal anti-inflammatory drugs.

3.5 Individual sensitivity of the animal to the components of the drug, severe violations of the liver and kidneys, significant violations of cartilage tissue development, damage to the nervous system accompanied by convulsions serve as contraindications for use of the drug.

3.6 It is prohibited for the drug to be used on poultry whose eggs are used for human food, as well as replacement chickens less than 14 days before the start of laying due to the accumulation of levofloxacin in eggs.

3.7 Slaughter of animals and poultry for meat after the last use of the drug is allowed no earlier than after 9 and 7 days respectively. In case of forced slaughter of animals earlier than the aforementioned period, the meat is used as feed for carnivorous animals.

4 Prevention measures

4.1 In the process of work general rules of personal hygiene and safety measures provided for work with feed additives for animals should be followed.

5 Order of claim submission

5.1 In case of complications after the use of the drug, its use is stopped and the consumer contacts the State Veterinary Institution stationed to the territory that he is located in. Veterinary specialists of this institution are studying compliance with all the rules for the use of the drug in accordance with the instructions. If the negative effect of the drug on an animal body is confirmed, veterinary specialists take samples in the required quantity for laboratory testing, with a sampling report drawn up and sent to the State Institution "Belarussian State Veterinary Center" (The Republic of Belarus, 220005, Minsk, Krasnaya str., 19 A) for confirmation of compliance with regulatory documents.

6 Full name of the manufacturer

6.1 Stovek LLC, The Republic of Belarus, 222660, Minsk region, Stolbtsy, Zadvorienskaya str., 2.

The instruction for usage of the drug is developed by employees of Stovek LLC (A.S. Piotukh, D.A. Plomodialov).