INSTRUCTIONS
for Use of the Veterinary Drug Ketocef-L
1. General Information

1.1 The veterinary drug Ketocef-L.

1.2 The veterinary medicinal product Ketocef-L (hereinafter referred to as the product) is a suspension for subcutaneous and intramuscular injection, ranging in color from white to cream. Separation is allowed during storage.

1.3 Each 1.0 ml of the product contains 100 mg of active substance (in the form of free crystalline ceftiofur acid), 150 mg of active ingredients and excipients: propylene glycol, vegetable oil, distilled water.

1.4 The product is packed in 10.0, 50.0, and 100.0 ml glass or polymer vials.

1.5 The product should be stored in a dry, dark place at a temperature between +5°C and +25°C. Keep out of reach of children.

1.6 Shelf life of the product is two years from the date of manufacture if storage rules are observed. After opening, the contents of the vial may be stored at +2°C to +8°C for 24 days. Dispose of after the expiration date in accordance with legislation. Do not use after the expiration date.

2. Pharmacological Properties

2.1 Ceftiofur, a third-generation cephalosporin antibiotic, has a broad spectrum of action and bactericidal effect against gram-negative and gram-positive pathogens including *Streptococcus spp.*, *Actinomyces pyogenes*, *Staphylococcus spp.*, *Salmonella spp.*, *Escherichia coli*, *Pasteurella multocida*, *Mannheimia haemolytica*, *Haemophilus parasuis*, *Klebsiella spp.*, *Citrobacter spp.*, *Enterobacter spp.*, *Bacillus spp.*, *Proteus spp.*, *Fusobacterium necrophorum*, and others sensitive to ceftiofur.

Ketoprofen is a nonsteroidal anti-inflammatory drug with anti-inflammatory, analgesic, and antipyretic effects.

2.2 The mechanism of action of ceftiofur is inhibition of the enzyme transpeptidase and disruption of peptidoglycan synthesis – the mucopeptide of the bacterial cell wall – leading to impaired growth and bacterial lysis. Ketoprofen works by inhibiting prostaglandin synthesis via disruption of arachidonic acid metabolism. Ketoprofen also inhibits bradykinin, which stimulates pain receptors, thereby reducing pain. Additionally, ketoprofen affects the central nervous system by suppressing pain perception.

2.3 After parenteral administration at a therapeutic dose, the maximum concentration of ceftiofur in blood is reached in 50–60 minutes and remains at a therapeutic level for up to 24 hours. In the endometrium, high concentrations are reached in 3–4 hours. High concentrations are also found in the gallbladder, bones, joints, and respiratory tract. Bioavailability after intramuscular injection is close to 100%.

Ketoprofen is rapidly absorbed after parenteral administration, reaching effective concentration in 20–30 minutes and lasting for 24 hours. It binds more than 98% to plasma proteins and accumulates in inflamed tissues. Its bioavailability varies from 85% to 100% depending on the animal species.

2.4 Ceftiofur is mainly excreted in the urine (70%) and feces (30%), while ketoprofen is primarily excreted by the kidneys.

3. Directions for Use

3.1 The product is used for therapeutic purposes in cattle and pigs for respiratory diseases, limb diseases, postpartum endometritis, and other conditions caused by microorganisms sensitive to ceftiofur.

3.2 For cattle: administer once daily subcutaneously at a dose of 1.0 ml per 30 kg of body weight (3 mg ceftiofur/kg and 4 mg ketoprofen/kg) for:

- Respiratory diseases: 3–5 days;
- Limb diseases (e.g., necrobacillosis): 3 days;

- Endometritis: 5 days.

For pigs: for respiratory diseases, administer once daily intramuscularly at 1.0 ml per 20 kg of body weight (3 mg ceftiofur/kg) for 3 days.

Shake the vial well before use until a uniform suspension is obtained and warm in a water bath to 37°C–38°C.

3.3 When used at recommended doses, the product generally does not cause side effects or complications.

3.4 Contraindications: hypersensitivity to product components (ceftiofur and ketoprofen). In case of allergic reactions, discontinue use and administer antihistamines and calcium preparations.

3.5 Avoid missing scheduled doses as this may reduce therapeutic efficacy. If a dose is missed, resume the regimen as before.

3.6 Cattle may be slaughtered for meat not earlier than 8 days, pigs not earlier than 6 days after the last injection. Meat from animals slaughtered before the indicated period may be used for feeding carnivores. Milk from treated animals may be used for human consumption 48 hours after the last injection.

4. Precautionary Measures

4.1 When working with the product, observe personal hygiene and safety rules.

5. Claims Procedure

5.1 In case of complications following the use of the product, discontinue its use and contact the state veterinary institution in your area. Veterinary specialists will check for proper compliance with the instructions. If adverse effects are confirmed, samples (minimum 3 unopened units from the affected batch) are collected and sent along with a sample collection report to the State Institution "Belarusian State Veterinary Center", 220005 Minsk, Krasnaya St. 19A, Tel.: 290-42-75.

6. Manufacturer Information

6.1 Production Cooperative "Biogel", Republic of Belarus, 220035, Minsk, Timiryazeva St., 65, office 313, by order of the Private Production and Trading Unitary Enterprise "Letyal", Republic of Belarus, 220075, Minsk, Inzhenernaya St., 1-E.

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