

## **Immunofan 1ml No. 5**

### **Composition and form of release.**

Injection 0.005% solution of immunophan – a synthetic hexapeptide (arginyl-alpha-aspartyl-lysyl-valyl-tyrosyl-arginine). It is a homogeneous, transparent, colorless, odorless liquid. Available in 1 ml ampoules.

### **Pharmacologic effect.**

Immunofan has an effect on the restoration of congenital and acquired disorders of cellular and humoral immunity. The drug increases antibacterial and antiviral resistance, the system of early antitumor defense of the body, has an immunoregulatory, anti-inflammatory, detoxifying and hepatoprotective effect.

Increases the genetic stability of cells, reduces the damaging effect of free radical products during chemical, radiation exposure and damage by radionuclides. The combined use of the drug with vaccines dramatically increases the titers and duration of circulation of specific antibodies, which creates a tense post-vaccination immunity, and also helps to reduce side effects during vaccination and increases the defenses of the animal's body. The drug synchronizes the sexual cycle, increases the efficiency of fertilization of females, reduces the number of spontaneous miscarriages and stillbirths, contributes to the successful course of pregnancy.

Reduces the likelihood of malnutrition in the fetus and newborns, increases the survival and vitality of the offspring.

Immunofan is completely absorbed from the injection site and is rapidly degraded to its constituent natural amino acids. The effect of the drug begins to develop within 2-3 hours (fast phase) and lasts up to 4 months (medium and slow phase). During the fast phase (duration – up to 2 – 3 days), the detoxification effect is manifested first of all – the antioxidant defense of the body is enhanced by stimulating the production of ceruloplasmin, lactoferrin, catalase activity; the drug normalizes lipid peroxidation, inhibits the breakdown of cell membrane phospholipids and the synthesis of arachidonic acid, followed by a decrease in blood cholesterol levels and the production of inflammatory mediators. In case of toxic and infectious liver damage, the drug prevents cytolysis, reduces the activity of transaminases and the level of bilirubin in the blood serum. During the middle phase (starts after 2-3 days, duration – up to 7-10 days), there is an increase in the reactions of phagocytosis and death of intracellular bacteria and viruses. As a result of the activation of phagocytosis, a slight exacerbation of foci of chronic inflammation is possible, supported by the persistence of viral or bacterial antigens. During the slow phase (it begins to develop on days 7-10, duration – up to 4 months), the immunoregulatory effect of the drug is manifested – the restoration of disturbed parameters of cellular and humoral immunity. During this period, there is a restoration of the immunoregulatory index, an increase in the production of specific antibodies is noted. The effect of the drug on the

production of specific antiviral and antibacterial antibodies is equivalent to the effect of some therapeutic vaccines.

The drug stimulates the formation of IgA in congenital insufficiency. The action of immunofan does not depend on the production of PGE<sub>2</sub> and the administration of the drug is possible in combination with anti-inflammatory drugs of the steroid and nonsteroidal series. The drug is harmless to animals, does not possess allergenic, embryotoxic, mutagenic properties.

**Indications.** Immunofan is prescribed for the correction of immunodeficiency states, for complex prevention and treatment of intestinal and respiratory diseases of viral, bacterial etiology, for intrauterine bacterial-viral infections, as well as for increasing the titer and duration of circulation of specific antibodies during vaccination of animals and birds.

**Doses and method of administration.** The drug is administered subcutaneously or intramuscularly at a dose of 1 ml for animals weighing up to 100 kg, 2 – 3 ml from 100 to 500 kg, 4 – 5 ml – over 500 kg. When vaccinating birds, immunofan is mixed with the vaccine at the rate of 1 ml of the preparation for 30 birds. For the treatment of parainfluenza, infectious rhinotracheitis, combined adenovirus and rhinotracheal infection once every other day 3-4 times, gastrointestinal diseases and viral enteritis once every other day 2-3 times, plague of carnivores once every other day 5-6 times, for the treatment of intrauterine infections once every other day 5 times. For the treatment of malnutrition of young animals and increasing the reproductive function of animals once every other day three times. For the prevention of gynecological diseases in animals once every 3-4 months, 3-4 times a year. For vaccine prevention of viral infections of animals and birds, the drug is mixed with the vaccine in one syringe or used as a solvent for dry vaccines. As an anti-stress drug once 12 – 18 hours before transportation of animals and birds.

**Side effects.**

Does not cause in recommended doses.

**Contraindications.**

It is not recommended to use immunofan with other immuno-and biostimulants.

**Special instructions.**

Livestock and poultry products after application of the drug can be used without restrictions.

**Storage conditions.**

In a dry, dark, cool place at a temperature of 2 to 10 ° C (in the refrigerator). Shelf life is 2 years.