



# Immunopropophyt

**100% Natural Medicine to Enhance Immune System** 

# **Suitable for Ruminants**

**Oral solution** 

# Ingredients:

- Propolis Extract
- Echinacea purpurea Extract
- Licorice Extract

Considering the increasing human population and the demand for livestock products such as milk and meat, attention to the quality of the supplied products is very significant and important. For this reason, it is necessary to enhance the immune system in ruminants in order to prevent the transmission and spread of various infections and to deal with diseases. Due to immune system weakness, the animal can get a variety of infections such as mastitis, Salmonella, Pasteurella, johne's disease, etc. The use of Immunoprophyt, the herbal medicine, in all kinds of ruminants such as cows, sheep and goats is recommended to prevent diseases, enhance and improve the activity of the immune system.



#### Mechanism of action:

Propolis is a sticky resinous substance produced by worker bees and its duty is protecting the hive, preventing the entry of invaders and preventing the growth of bacteria, viruses and fungi. Propolis contains flavonoid compounds, aromatic and aliphatic acids, terpenoids, fatty acids, amino acids, polysaccharides, vitamins and various minerals. Some of the most important benefits of propolis are antibacterial, antiviral, antifungal, anti-parasitic, anti-inflammatory, antioxidant and anti-cancer properties. Due to its rich content of flavonoids, phenolic acids and terpenoids, propolis stimulates the cellular and humoral immune system by stimulating the proliferation of peripheral lymphocytes and increasing the secretion of antibodies, stimulating T lymphocytes and increasing the phagocytosis percentage, and as a result, it enhances the immune responses against pathogens.

Ethanolic extract of propolis in newborn calves increases calf weight (BWG) and decreases FCR. Also, by controlling the feces of calves as a result of consuming propolis, diarrhea is reduced.

Echinacea plant has antibacterial, antiviral, anti-inflammatory, antioxidant properties and regulates the function of the immune system. The most important compounds of this plant are classified as alkamides, phenolic compounds, glycoproteins and polysaccharides. Echinacea stimulates the immune response against pathogens by activating macrophages, polymorphonuclear leukocytes and natural killer cells (NK-cells) and increasing phagocytosis. Arabinogalactan which is present in this plant stimulates and regulates the function of the complement system. Also, Echinacea extract acts as a hematinic agent and increases the synthesis of hemoglobin and thus increases the number of red blood cells, and by this way plays a significant role in enhancing the immune system and other organs. Echinacea plant has positive effects on immunity level in ruminants by increasing  $\gamma$ -interferon, IgG, TNF- $\alpha$ , IL-4 and IL-2.

Licorice plant extract contains various compounds including triterpenoid saponins, flavonoids, isoflavones, coumarins, various amino acids and polysaccharides. Its main saponin compounds are glycyrrhizic acid and glycyrrhizin. . Triterpenoids and other compounds, including flavonoids, in licorice extract have antioxidant properties and reduce oxidative stress caused by physical (near parturition) and chemical factors (aflatoxins in feed, etc.) and as a result, they improve blood biochemical indicators and organ function. Glycyrrhizin causes the secretion of cytokines involved in the development of T lymphocytes and plays an effective role in creating cellular immune responses. Also, glycyrrhizic acid strengthens the immune system against bacterial and viral agents by stimulating the secretion of antibodies and gamma interferon. Licorice prevents and heals gastrointestinal ulcers by increasing mucus secretion as well as its anti-pepsin activity. Licorice plant in ruminants reduces volatile fatty acids (VFA), reduces acetate production and increases propionate and butyrate. It also has antioxidant properties by increasing T-AOC and SOD. Among other effects of this plant, we can mention the reduction of DMI.

According to the properties of these natural extracts, the Immunoprophyte product enhances cellular and humoral immunity and leads to an increase in the body's resistance to diseases and also accelerates the healing process of diseases.



### Immunopropophyt Indications:

- Improving the function of the immune system in response to vaccination
- Enhancing the immune system against pathogens (viral, bacterial, fungal,etc)
- Preventing bacterial and viral infections
- Controlling the spread of viral diseases such as Bovine Viral Diarrhea by reducing virus shedding
- Improving gastrointestinal inflammations and ulcers caused by infectious diseases
- Improving bronchial inflammations and secretions
- Improving FCR and herd performance
- Reducing the mortality rate
- Improving gastrointestinal function





## **Recommended dosage:**

250 ml per 5000 kg of body weight (0.5 ml per 10 kg of body weight) should be consumed using a drencher for 5 days. If you need to continue the treatment, consult a veterinarian.

### **Storage Conditions:**

Store in a cool and dry place at 25°C and away from direct sunlight.

#### Withdrawal Period:

No withdrawal period is required.

#### **Drug Interaction:**

Compatible with all kinds of commonly used medicines, additives and vaccines.

#### **Cautions:**

Keep out of reach of children

In case of accidental eye contact, wash immediately with plenty of water

# Packaging:

250 ml bottles

#### **Expiration Date:**

24 months from production date





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