



## Immunoprophyt

100% natural medicine to enhance immune system

Suitable for poultry

Oral solution

### Ingredients:

- Propolis Extract
- Echinacea purpurea Extract
- Licorice Extract

Immune system weakness in poultry is caused by viral infections, mycotoxins, liver diseases, stress, gastrointestinal infections, fungal infections or improper feeding, and makes the bird susceptible to mycoplasma and E. coli infections and causes lower production of antibody titers and reduced response to vaccines in poultry. Poultry with weak immunity get sick more often, so it is very important to pay special attention to the poultry's immune system and strengthen it.

### 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 strengthens the immune responses against pathogens.

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 strengthening the immune system and other organs.

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 (heat, transportation, humidity) and chemical factors (aflatoxins in food, 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 (such as Newcastle disease) 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.

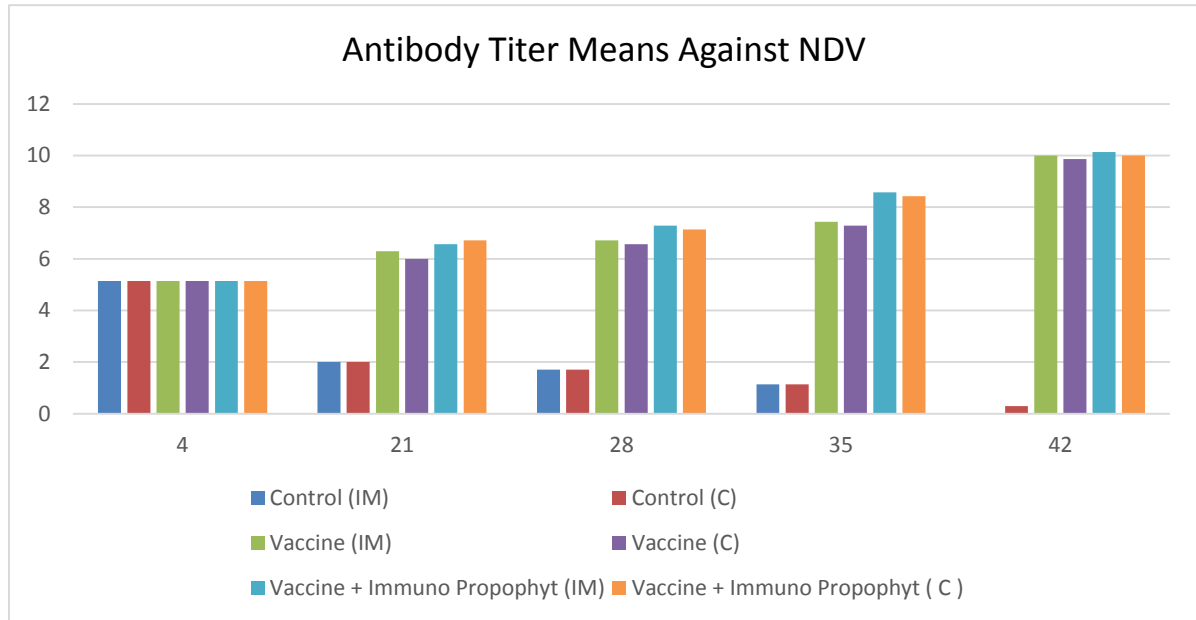
According to the properties of these natural extracts, the Immunopropophyte product strengthens cellular and humoral immunity and leads to an increase in the body's resistance to diseases and also accelerates the healing process of diseases.

### Immunoprophylaxis Indications:

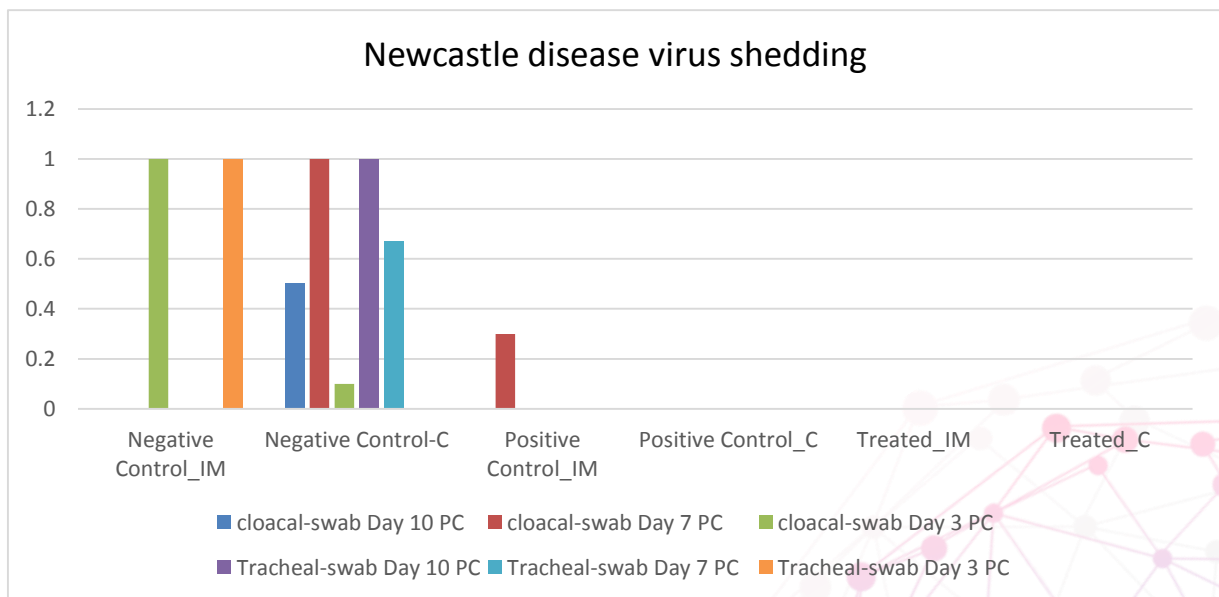
- Improving the function of the immune system in response to vaccination
- Strengthening the immune system against pathogens (viral, bacterial, fungal,...)
- Preventing bacterial and viral infections
- Controlling the spread of viral diseases such as Newcastle by reducing virus shedding
- Improving gastrointestinal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



### Investigation of antibody titer against Newcastle disease



### Investigation of the multiplication and elimination of acute Newcastle virus from digestive and respiratory secretions



<sup>1</sup> This study has been taken place in Razi Vaccine and Serum Research Institute  
 C= contact challenge with the virus    IM= injectional challenge with the virus

**Recommended dosage:**

250 ml/1000 L drinking water

**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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