PAMEVIT SUPER POWDER

(Vitamin A, Vitamin D-3, Vitamin E, Vitamin K-3, Vitamin C, Vitamin B-1, Vitamin B-2, Vitamin B-6, Vitamin B-12, Folic Acid, Nicotinic Acid, Calcium Pantothenate.)

SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE VETERINARY MEDICINAL PRODUCT

PAMEVIT SUPER POWDER

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each Kg Contains:
Vitamin A ……..... 20,000,000 IU
Vitamin D-3 ……..…. 4,000,000 IU
Vitamin E …….. 8000mg
Vitamin K-3 …….. 9000mg
Vitamin C …….. 10,000mg
Vitamin B-1 ……..... 1,250mg
Vitamin B-2 ..... 20,000mg
Vitamin B-6 ..... 6,000mg
Vitamin B-12 ..... 30,000mg
Folic Acid 2,000mg
Nicotinic Acid 100,000mg
Calcium Pantothenate..... 30,000mg

3. PHARMACEUTICAL FORM

Oral powder

4. CLINICAL INFORMATION

4.1. Target species

Cows, sheep, and poultry.

4.2. Indications for use specifying the target species

It is used as a supplemental therapy to:

- Supply exogenous digestive enzymes and vitamins
- Improve immunity
- Prevent vitamin deficiencies and improve the feed conversion rate
- Enhance resistance to all kinds of stress, including climate change, immunization, and transportation, loss of appetite, stunted growth and development
- Prevents rickets, fatty liver disease, the onset of ailments such as peck anus and pecked feathers
- Regulates intestinal flora, increases appetite and weight gain in livestock animals

4.3. Contraindications

Not known.

4.4. Special warnings for each target species

Do not use this product for an animal that has a known allergy or hypersensitivity to any of the ingredients.

4.5. Special precautions for use

Once opened the pack should be used quickly. Store in a cool and dry place, away from light.

Special precautions for safe use in the target species:

Not Reported.

Special precautions to be taken by the person administering the product to animals:

People with known hypersensitivity to the active substances should avoid contact with the veterinary medicinal product.
Avoid contact with eyes, skin, and mucous membranes.
Wash hands thoroughly after handling the product.
Keep out of reach of children.
In case of accidental self-injection, seek medical advice immediately and show the package leaflet or the label.

4.6. Adverse reactions (frequency and seriousness)

As with all pharmaceuticals, some unwanted effects can occur from the use of this product
For a comprehensive list of all possible side effects of this medication, consult a veterinarian.

4.7. Use during pregnancy and lactation or lay

Not Reported.

4.8. Interaction with other veterinary medicinal products and other forms of interaction

None known.

4.9. Dosage and administration route

The recommended dosage typically ranges from 1g to 2g per kg of body weight. The recommended dosage is 100g of soluble powder mixed with 200L of water. It is recommended to be given orally through drinking water.
Refer to a veterinary doctor or pharmacist for guidelines on dosage.

4.10. Overdose (symptoms, emergency procedures, antidotes), if necessary

Not Reported.

4.11. Withdrawal period:

Meat & Milk: 0 Days

5. PHARMACOLOGICAL PROPERTIES

ATC vet code: **QA11AB**

5.1. Pharmacodynamics properties

Vitamin A is necessary for at least five different physiological processes:

- normal vision
- maintenance of epithelial integrity
- normal reproductive function and embryonic development
- bone development
- immunity

Vitamin D is mainly involved in the regulation of parathyroid hormone secretion and the regulation of calcium and phosphorus metabolism, necessary for normal intestinal absorption, renal excretion and bone mineralization of these elements. The main signs of vitamin D deficiencies are associated with skeletal abnormalities, associated with rickets.

Vitamin E is mainly effective for its antioxidant properties, which are necessary for the proper functioning of a number of physiological structures and processes, including membrane structures (stability and integrity), prostaglandin biosynthesis, blood coagulation, reproductive function and immunity.

Vitamin K, a fat-soluble vitamin, plays a crucial role in blood clotting.

It functions as a cofactor for an enzyme complex that carboxylates specific glutamate residues within precursor proteins of coagulation factors II (prothrombin), VII, IX, and X. This carboxylation step is essential for activating these factors, which subsequently participate in the blood clotting cascade, culminating in the formation of a stable blood clot. Consequently, vitamin K deficiency can lead to impaired blood clotting. Oral administration of vitamin K can effectively correct this deficiency by restoring normal blood clotting function. Furthermore, regular vitamin K supplementation can prevent deficiencies, particularly in animals with limited access to vitamin K-rich foods or those receiving medications that interfere with vitamin K metabolism. Vitamin K absorption is facilitated by bile acids in the gastrointestinal tract, while its metabolism primarily occurs in the liver. Excretion of vitamin K occurs predominantly through bile and urine

Vitamin C (Ascorbic Acid)

Acts as an antioxidant, protecting cells from damage. It's a key cofactor for enzymes involved in making collagen, which is vital for connective tissues, skin, and wound healing. It also supports the immune system and helps absorb iron.

Vitamin B-1 (Thiamine)

Its active form, TPP, is a coenzyme essential for carbohydrate metabolism. This process is crucial for generating energy, especially for the nervous system and brain. Deficiency can severely impact neurological function.

Vitamin B-2 (Riboflavin)

It's a precursor to the coenzymes FMN and FAD, which are fundamental for redox reactions in the body. These reactions are central to metabolizing fats, carbohydrates, and proteins, and it also supports other antioxidant functions.

Vitamin B-6 (Pyridoxine)
The active form, PLP, is a coenzyme for over 100 enzymes, primarily in amino acid metabolism. This makes it vital for synthesizing neurotransmitters like serotonin and dopamine, creating red blood cells, and maintaining immune function.
Vitamin B-12 (Cobalamin)
This vitamin is a coenzyme for two key enzymes that are essential for DNA synthesis and the formation of the **myelin sheath** around nerves. Its role in DNA synthesis is critical for red blood cell production, and deficiency can lead to anemia and neurological damage.
Folic Acid (Folate)
Acts as a coenzyme in transferring one-carbon units, which is essential for DNA and RNA synthesis and repair. This is especially important for rapid cell division, such as during fetal development, to prevent neural tube defects.
Nicotinic Acid (Niacin)
A precursor to the coenzymes NAD+ and NADP+, which are central to cellular energy metabolism. At high doses, it has the added pharmacodynamic effect of lowering LDL cholesterol and raising HDL cholesterol.
Calcium Pantothenate (Vitamin B-5)
This is a core component of Coenzyme A (CoA), a molecule essential for a vast range of metabolic processes. It plays a vital role in the synthesis and breakdown of fatty acids, cholesterol, and various hormones, and is a key part of the citric acid cycle for energy production.

5.2 Pharmacokinetic information
Vitamin A is absorbed from the intestine after hydrolysis by retinyl ester hydrolase, secreted by the pancreas. Fatty micelles present in the intestine facilitate the uptake of retinol by enterocytes. Retinol is then esterified, mainly with palmitate and taken up by chylomicrons, to be transported via the lymphatic system to the liver. The liver contains about 90% of the total vitamin A content in the body.
Vitamin A is excreted mainly through urine and feces.
Vitamin D-3 is absorbed together with existing fats and is consequently stimulated by bile and pancreatic secretions. Absorbed vitamin D is taken up by chylomicrons together with other fats for transport via the lymphatic system to the bloodstream. Vitamin D3 (cholecalciferol) is converted to 25 hydroxycholecalciferol (calcifediol) in the liver and subsequently to the active metabolite 1, 25-dihydroxycholecalciferol (calcitriol) in the kidneys. Excretion of absorbed vitamin D and its metabolites occurs mainly via the feces with the help of bile salts. Only very little vitamin D appears in the urine.
The absorption of **vitamin E** is dependent on fat digestion and is therefore also facilitated by bile and pancreatic secretions. Vitamin E esters, present in the diet, are hydrolyzed in the intestinal mucosa. Most vitamin E is therefore absorbed as the free alcohol to be transported via the lymph and further via the bloodstream. Vitamin E is stored in all tissues,but mainly in the liver. Vitamin E is metabolized in the liver and excreted mainly via the bile (70-80%) and urine.
Vitamin K-3, a fat-soluble vitamin, is absorbed from the gastrointestinal tract with the aid of bile acids and dietary fats. Once absorbed, it binds to carrier proteins and is primarily distributed to the liver for metabolism and storage. In the liver, vitamin K is metabolized into active forms like menaquinone-4 and menaquinone-7. Excretion primarily occurs through bile and urine. Factors influencing pharmacokinetics include dietary fat intake, bile acid secretion, antibiotic use, and interactions with other medications. The appropriate-ate dosage and monitoring of blood coagulation parameters are essential for effective vitamin K therapy in veterinary medicine
Vitamin C (Ascorbic Acid) Vitamin C is absorbed in the small intestine, but this process becomes saturated at high doses. It's widely distributed in the body, with high concentrations in certain glands and immune cells. It's metabolized in the liver to inactive forms and primarily eliminated unchanged by the kidneys. The more you take, the faster it is excreted.

Vitamin B-1 (Thiamine) Thiamine is absorbed in the small intestine, either actively at low doses or by passive diffusion at high doses. It's distributed to various tissues, including the liver, heart, and brain, and is converted to its active form, thiamine pyrophosphate (TPP). Excess thiamine is excreted in the urine.
Vitamin B-2 (Riboflavin) Riboflavin is absorbed from the small intestine via a special carrier protein. It has a short half-life of about one hour and is distributed throughout the body. It's converted into its active coenzyme forms, FMN and FAD, primarily in the liver, and is mostly eliminated unchanged in the urine.
Vitamin B-6 (Pyridoxine) Pyridoxine is easily absorbed from the gut. It's stored mainly in the liver and to a lesser extent in muscles and the brain. In the liver, it is converted to its active form, PLP, and also to an inactive metabolite. This inactive metabolite is then excreted in the urine, with a half-life of about 15–20 days.
Vitamin B-12 (Cobalamin) The absorption of Vitamin B-12 is a unique and complex process. It must bind to a protein called **intrinsic factor**, which is produced in the stomach, before it can be absorbed in the small intestine. Once absorbed, it binds to a transport protein to be delivered to the liver and other tissues, where it is stored for a long time. Very little is excreted, giving it a very long half-life.
Folic Acid (Folate) Folic acid from supplements is easily absorbed in the small intestine. It's transported into cells and metabolized to its active forms, which are crucial for various cellular functions. It's then eliminated in the urine.
Nicotinic Acid (Niacin) Niacin is quickly absorbed from the gastrointestinal tract, though the rate depends on the formulation. It's widely distributed in the body and metabolized in the liver to various compounds. These metabolites are then primarily eliminated in the urine. It has a short half-life of under an hour.
Calcium Pantothenate (Vitamin B-5) Vitamin B-5 is absorbed in the small intestine through both active transport and passive diffusion. It's transported to tissues bound to red blood cells and converted into its active form, coenzyme A (CoA). The intact vitamin is then excreted in the urine, with the amount depending on how much you consume.

6. PHARMACEUTICAL INFORMATION

6.1 Incompatibilities

In the absence of compatibility studies, this veterinary medicinal product must not be mixed with other veterinary medicinal products.

6.2. Shelf life

Shelf life of the veterinary medicinal product as packaged for sale: 2 years.

6.3. Special precautions for storage

Store below 25°C.
Protect from light and moisture.
Keep out of the reach of children.
To be used as directed by the registered veterinary practitioner only.

6.4. Nature and composition of primary conditioning

Metalized Aluminum Foil pouch for 250 gm, 500gm, 1Kg

SPECIAL PRECAUTIONS FOR THE DISPOSAL OF WASTE MATERIALS
UNUSED MEDICINAL PRODUCTS OR WASTE MATERIALS

Waste materials derived from the use of such products
Medicinal products should not be disposed of via wastewater or household waste.
Use return systems for unused veterinary medicinal products or waste materials derived from such products, in accordance with local requirements and national collection systems applicable to the veterinary medicinal product concerned.

Treated animals should be kept in shelters throughout the treatment period and their droppings should be collected and NOT used for soil fertilization.

7. MARKETING AUTHORISATION HOLDER

Nawan Laboratories (Pvt.) Ltd.
Plots No. 136-138, Sector-15,
Korangi Industrial Area, Karachi-74900, Pakistan.

8. MARKETING AUTHORISATION NUMBER

Reg. No.: 026419

9. DATE OF FIRST AUTHORISATION

Date of Reg.: 14-10-2000

10. DATE OF REVISION OF THE TEXT

17-02-2025

MANUFACTURED BY:

NAWAN LABORATORIES (PVT) LTD. | 136, Sector 15, Korangi Industrial Area, Karachi-74900, Pakistan.