





Vitamin A

- Essential for reproduction, growth, and normal function of most organs
- Helps maintaining the integrity of epithelial tissues
- It is a defense against infections

Vitamin D₃

- Involved in the regulation of calcium and phosphorus metabolism
- Increases tubular and intestinal absorption of calcium
- Promotes the mineralization of the cartilaginous matrix which is being developed in the bones epiphysis

ABIANA a



Vitamin E

Antioxidant activity



Nov-A-Vit Emulsion for injection

The ADE fat-soluble vitamin complex helps to increase the animal production

Vitamin A

It is easily absorbed from the point of Inoculation. As vitamin A passes through the intestinal wall is esterified to palmitate retinol. Esterification also occurs in the liver, where up to 95% of it is stored. After hepatic metabolization, palmitate retinol is released into circulation in the form of retinol attached to a specific alfa globulin. Retinol is mostly removed by urine and in smaller amounts in the feces.

Vitamin E

After absorption, vitamin E passes into the circulatory system attached to β -lipoproteins. Vitamin E disseminates to most tissues and finally is stored in adipose tissue. Vitamin E suffers liver metabolism and is excreted mainly in bile and, to a lesser extent, in urine and milk.

Vitamin D₃ After parenteral administration, Vitamin D₂ is transported in the blood attached to 2-globulin and finally is mainly stored in the liver and adipose tissue. Before Vitamin D₂ can exercise its physiological functions it must be metabolically activated. Vitamin D₃ is transformed in the liver by an oxidation process in the endoplasmatic retyculum of hepatocites into 25-hydroxycalciferol and is subsequently hydroxylated to 1.25-hydroxycholecalciferol in the mitochondria, which stimulates the synthesis of a protein that uptakes calcium in the intestinal mucosa. After being transported to the kidney, Vitamin D₂ suffers another hydroxylation under the influence of an enzyme from proximal contoured tubular cells transforming it into 1.25-dihydroxycholecalciferol (active form). Eliminated in bile and milk.



Vitamin D₃

COMPOSITION PER ML

Active substances:	
Vitamin A (retinol propionate)	
Vitamin D ₃ (cholecalciferol)	
Vitamin E (all-rac- α -tocopherol acetate)	

INDICATIONS

Prevention and treatment of deficiencies in vitamin A, D, and E.

POSOLOGÍA Y VÍA DE ADMINISTRACIÓN

Bovine: 1-5 ml/animal (equivalent to 500,000-2,500,000 IU vitamin A, 75,000-375,000 IU vitamin $D_{\scriptscriptstyle 3}$ and 50-250 mg vitamin E).

Porcine: 0.5-3 ml/animal (equivalent to 250,000-1,500,000 IU vitamin A, 37,500-225,000 IU vitamin D_2 and 25-150 mg vitamin E).

Caprine and ovine: 0.5-2 ml/animal (equivalent to 250,000-1,000,000 IU vitamin A,37,500-150,000 IU vitamin D_3 and 25-100 mg vitamin E). Intramuscular administration, as a single dose.

WITHDRAWAL PERIOD

Meat: 28 days. Milk: Zero days.

ADVERSE REACTIONS

- Anaphylactic reactions may occur in very rare cases. If this occurs immediately administer epinephrine and/or injectable antihistamines.
- In very rare cases abscesses or a small local reaction may occur at the injection site.

SPECIAL PRECAUTIONS FOR STORAGE

Store below 25ºC.

Keep the vial in the outer carton box in order to protect it from light.

PRESENTACIONES

25ml. 100ml and 250ml vials.

Registry No. 3687 ESP

Medication subject to veterinary prescription. Administration under control or supervision of the veterinarian.

Bibliography:

- Smithy col. 1997. Dietary vitamin E and selenium affect mastitis and milk quality. J. Anim. Sci. 75:1659-1665.
- Montgomery y col. 2004. Effects of biological type of beef steers on vitamin D, calcium, and phosphorus status. J. Anim. Sci. 82:2043-2049.
- Conrad H.R. Hansard S.L. 1957. Effects of massive doses of vitamin D on physiological behavior of calcium in cattle. J. Appl. Physiol. 10: 98-102.
- Babinsky, L., Langhout, D.J., Verstegen, M.W., den Hartog, L.A., Joling, P y Nieuwland, M. 1991. Effect of vitamin E and fat source in sows diets on immune response of suckling and weaned piglets. Journal of Animal Science. 69: 1833-1842.
- Islam, S.N., Begum, P. y Ahsan, M. 2005. Serum micronutrient (a-tocopherol, retinol, copper, zinc) status of immunosuppressed rats. Mal. J. Nutr. 11(1): 69-73.
- · Rood, K. 2011. Reproduction and immune impacts from vitamin or mineral deficiencies: Determining if your herd is deficient. Cooperative Extension Veterinarian. Utah State University. AG/ Animal Health/2011-01pr. p 3.
- McDowell LR. 2006. Vitamin nutrition of livestock animals: Overview from vitamin discovery to today, Can. J. Anim. Sci. 86:171-179.
- Roche. 1979. Optimum vitamin nutrition. Hoffmann-La Roche: Nutley, 1979. (Cited in Ref. 1).

