1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Zodon 88 mg chewable tablets for dogs

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each tablet contains:
Active substance:
Clindamycin (as hydrochloride).....88 mg

Excipients:

Qualitative composition of excipients and other constituents
Chicken flavour
Yeast extract
Croscarmellose sodium
Copovidone
Magnesium stearate
Silica, colloidal anhydrous
Microcrystalline cellulose
Lactose monohydrate

Clover-shaped scored beige tablet. The tablet can be divided into four equal parts.

3. CLINICAL INFORMATIONS

3.1 Target species

Dogs.

3.2 Indications for use for each target species

- For the treatment of infected wounds and abscesses, and oral cavity infections including periodontal disease, caused by or associated with *Staphylococcus* spp., *Streptococcus* spp. *(*except *Streptococcus faecalis), Bacteroides* spp., *Fusobacterium necrophorum,* and *Clostridium perfringens.*
- For the treatment of superficial pyoderma associated with *Staphylococcus pseudintermedius.*
- For the treatment of osteomyelitis cau*sed* by *Staphylococcus aureus.*

3.3 Contraindications

Do not use in cases of hypersensitivity to the active substance or to any of the excipients or to lincomycin.
Do not administer to rabbits, hamsters, guinea pigs, chinchillas, horses or ruminants because ingestion of clindamycin by these species may result in severe gastro-intestinal disturbance.

3.4 Special warnings

None.

3.5 Special precautions for use

Special precautions for safe use in the target species:
The chewable tablets are flavoured. In order to avoid any accidental ingestion, store tablets out of reach of the animals.
Use of the veterinary medicinal product should be based on susceptibility testing of the bacteria isolated from the animal.
Official and local antimicrobial policies should be taken into account when the veterinary medicinal product is used.
Use of the veterinary medicinal product deviating from the instructions given in the SPC may increase the prevalence of bacteria resistant to clindamycin and may decrease the effectiveness of treatment with lincomycin or macrolide antimicrobials due to the potential for cross-resistance.
Clindamycin and erythromycin show parallel resistance. Partial cross-resistance has been demonstrated between clindamycin, erythromycin and other macrolide antibiotics.
During prolonged therapy of one month or greater, periodic liver and kidney function tests and blood counts should be performed.
Animals with severe renal and/or very severe hepatic disturbances accompanied by severe metabolic aberrations should be dosed with caution and should be monitored by serum examination during high-dose clindamycin therapy.
Clindamycin sometimes causes the overgrowth of non-sensitive organisms such as clostridia and yeasts. In cases of superinfection, appropriate measures must be taken according to the clinical situation.

Special precautions to be taken by the person administering the veterinary medicinal product to animals:
People with known hypersensitivity to lincosamides (lincomycin and clindamycin) should avoid contact with the veterinary medicinal product.
Wash hands after handling tablets.
Accidental ingestion may result in gastro-intestinal effects such as abdominal pain and diarrhoea. Care should be taken to avoid accidental ingestion.
In case of accidental ingestion, particularly by children, seek medical advice immediately and show the package leaflet or the label to the physician.

Special precautions for the protection of the environment:
Not applicable.

3.6 Adverse events

Dogs:

Very rare (<1 animal / 10,000 animals treated, including isolated reports):	Hypersensitivity reaction Thrombocytopenia Vomiting, diarrhoea

Reporting adverse events is important. It allows continuous safety monitoring of a veterinary medicinal product. Reports should be sent, preferably via a veterinarian, to either the marketing authorisation holder or the national competent authority via the national reporting system. See the package leaflet for respective contact details.

3.7 Use during pregnancy, lactation or lay

Pregnancy and lactation:
While high dose studies in rats suggest that clindamycin is not a teratogen and does not significantly affect the breeding performance of males and females, safety in gestating bitches or breeding male dogs has not been established.

Clindamycin crosses the placental and the blood-milk barrier.
Treatment of lactating females can cause diarrhoea in puppies.
Use the veterinary medicinal product only according to the benefit/risk assessment by the responsible veterinarian.
The use of the veterinary medicinal product is not recommended in neonates.

3.8 Interaction with other medicinal products and other forms of interaction

Clindamycin hydrochloride has been shown to have neuromuscular blocking properties that may enhance the action of other neuromuscular blocking agents. The veterinary medicinal product should be used with caution in animals receiving such agents.

Clindamycin should not be combined with erythromycin or other macrolides to prevent macrolide-induced resistance to clindamycin.
Clindamycin may reduce plasma levels of cyclosporin with a risk of lack of activity.

During the simultaneous use of clindamycin and aminoglycosides (eg gentamicin), the risk of adverse interactions (acute renal failure) cannot be excluded**.**

3.9 Administration routes and dosage

Oral use.

1. For the treatment of infected wounds and abscesses, and oral cavity infections including periodontal disease, administer either:
   - 5.5 mg/kg of bodyweight every 12 hours for 7-10 days, or
   - 11 mg/kg of bodyweight every 24 hours for 7-10 days
     If no clinical response is seen within 4 days, redetermine the diagnosis.

2. For the treatment of superficial pyoderma in dogs, administer either:
   - 5.5 mg/kg of bodyweight every 12 hours, or
   - 11 mg/kg of bodyweight every 24 hours

Therapy of superficial pyoderma is usually recommended for 21 days, with extension of therapy based on clinical judgement.

3. For the treatment of osteomyelitis in dogs, administer:
   - 11 mg/kg of bodyweight every 12 hours for a minimum of 28 days

If no clinical response is seen within 14 days, the treatment should be stopped and the diagnosis redetermined.
For example:

- For a dose regimen of 11mg/kg

Weight (kg)	Number of tablets per administration
1.0 – 2.0	¼ tab
2.1 – 4.0	½ tab
4.1 – 6.0	¾ tab
6.1 – 8.0	1 tab
8.1 – 10.0	1 + ¼ tabs
10.1 – 12.0	1 + ½ tabs
12.1 – 14.0	1 + ¾ tabs
14.1 – 16.0	2 tabs

- For a dose regimen of 5.5 mg/kg

Weight (kg)	Number of tablets per

	administration
2.0 – 4.0	¼ tab
4.1 – 8.0	½ tab
8.1 – 12.0	¾ tabs
12.1 – 16.0	1 tab

To ensure a correct dosage, body weight should be determined as accurately as possible.
The tablets are flavoured. They can be administered directly into the mouth of the animals or with a small quantity of food.
Instruction on how to divide the tablet: Put the tablet on an even surface, with its scored side facing down (convex face up). With the tip of the forefinger, exert slight vertical pressure on the middle of the tablet to break it along its width into halves. Then, in order to obtain quarters, exert slight pressure on the middle of one half with the forefinger to break it into two parts.

3.10 Symptoms of overdose (and where applicable, emergency procedures and antidotes)

In dogs, oral doses of clindamycin up to 300 mg/kg/day did not result in toxicity. Dogs receiving 600 mg/kg/day of clindamycin developed anorexia, vomiting and weight loss. In cases of overdose, discontinue treatment immediately and establish symptomatic treatment.

3.11 Special restrictions for use and special conditions for use, including restrictions on the use of antimicrobial and antiparasitic veterinary medicinal products in order to limit the risk of development of resistance.

Not applicable.

3.12 Withdrawal periods

Not applicable.

4. PHARMACOLOGICAL INFORMATION

4.1 ATCvet code : QJ01FF01

4.2 Pharmacodynamics

Mode of action:

Clindamycin is a semi-synthetic antibiotic produced by 7(S)-chloro substitution of the 7(R)-hydroxy group of the natural antibiotic produced by *Streptomyces lincolnensis var. lincolnensis.*

Clindamycin acts by a bacteriostatic mechanism where the drug interferes with protein synthesis within the bacterial cell, thus inhibiting the growth and multiplication of the bacteria. Clindamycin binds to the 23S ribosomal RNA component of the 50S subunit. This prevents amino acids binding on these ribosomes, and therefore inhibits peptide bond formation. The ribosomal sites are close to those bound by macrolides, streptogramins or chloramphenicol.

Antibacterial spectrum:

Clindamycin is a moderate spectrum antimicrobial drug.

Susceptible microorganisms (S):
Clindamycin has *in vitro* activity against the following micro-organisms (see the following MICs):

- Aerobic Gram-positive cocci, including: *Staphylococcus aureus* and *Staphylococcus pseudintermedius* (penicillinase and non-penicillinase producing strains), *Streptococcus* spp. *(*except *Streptococcus faecalis).*
- Anaerobic Gram-negative bacilli, including: *Bacteroides* spp.*, Fusobacterium necrophorum.*
- Clostridia: Most *Clostridium perfringens* are susceptible.

MIC data:

CLSI clindamycin veterinary breakpoints are available for dogs in *Staphylococcus* spp. and Streptococci-ß-haemolytic group in skin and soft tissue infections: S ≤0.5µg/ml; I=1-2µg/ml; R ≥ 4µg/ml. (CLSI July 2013).

Type and mechanism of resistance:

Clindamycin belongs to the lincosamide group of antibiotics. Resistance can develop to the lincosamides alone, but more commonly cross-resistance occurs among macrolides, lincosamides and streptogramin B antibiotics (MLS_B group). Resistance is the result of methylation of adenine residues in the 23S RNA of the 50S ribosomal subunit, which prevents drug binding to the target site. Different bacterial species are able to synthesize an enzyme, encoded by a series of structurally related erythromycin ribosomal methylase (*erm*) genes. In pathogenic bacteria, these determinants are mostly borne by plasmids and transposons that are self-transferable. The erm genes occur predominantly as variants erm(A) and erm(C) in *Staphylococcus aureus* and as variant erm(B) in *Staphylococcus pseudintermedius*, streptococci and enterococci . Bacteria resistant to macrolides but initially susceptible to clindamycin, rapidly develop resistance to clindamycin when exposed to macrolides. These bacteria present a risk of *in vivo* selection of constitutive mutants.

MLS_B inducible resistance is not detected by standard *in vitro* susceptibility testing methods. The CLSI recommends the D-zone test to be routinely performed in veterinary diagnostic laboratories in order to detect clinical isolates with inducible resistance phenotype. Clindamycin use should be discouraged in these patients.

The incidence of resistance to lincosamides in *Staphylococcus* spp. appears to be wide-ranging in Europe. Literature data (2016) report an incidence between 25 to 40%.

4.3 Pharmacokinetics

Absorption:
Clindamycin hydrochloride is rapidly absorbed from the canine gastrointestinal tract following oral administration.

Serum values:
After oral administration of 13.1 mg/kg bodyweight, the maximal plasma concentration of 6.4 µg/ml (mean C_{max}) is reached within 50 minutes (mean T_{max}). The biological plasma half-life of clindamycin in the dog is approximately 5 hours. No accumulation of bioactivity has been observed in dogs after several oral administrations.

Metabolism and Excretion:
Extensive research of the metabolism and excretion pattern of clindamycin shows that the parent molecule as well as bioactive and bio-inactive metabolites are excreted via the urine and faeces.

Nearly all bioactivity in the serum following oral administration is due to the parent molecule (clindamycin).

5. PHARMACEUTICAL PARTICULARS

5.1 Major Incompatibilities

Not applicable.

5.2 Shelf life

Shelf-life of the veterinary medicinal product as packaged for sale: 3 years

Shelf life for tablet portions after first opening the immediate packaging: 72 hours (or 3 days)

5.3. Special precautions for storage

Do not store above 30°C.
Tablet portions should be stored in the blister pack.
Keep the blister in the outer carton.

5.4 Nature and composition of immediate packaging

Blister pack: (PVC – TE –PVDC – aluminium heat sealed) containing 10 tablets per blister
Cardboard box of 10 tablets containing 1 blister of 10 tablets
Cardboard box of 20 tablets containing 2 blisters of 10 tablets
Cardboard box of 100 tablets containing 10 blisters of 10 tablets
Cardboard box of 120 tablets containing 12 blisters of 10 tablets
Cardboard box of 240 tablets containing 24 blisters of 10 tablets
Not all pack sizes may be marketed.

5.5 Special precautions for the disposal of unused veterinary medicinal product or waste materials derived from the use of such products

Medicines should not be disposed of via wastewater or household waste.

Use take-back schemes for the disposal of any unused veterinary medicinal product or waste materials derived thereof in accordance with local requirements and with any national collection systems applicable to the veterinary medicinal product concerned.

6. NAME OF THE MARKETING AUTHORISATION HOLDER

Ceva Santé Animale

7. MARKETING AUTHORISATION NUMBERS

VPA10815/040/001

8. DATE OF FIRST AUTHORISATION

22/04/2016

9. DATE OF THE LAST REVISION OF THE SUMMARY OF THE PRODUCT CHARACTERISTICS

24/04/2026

10. CLASSIFICATION OF VETERINARY MEDICINAL PRODUCTS

Veterinary medicinal product subject to prescription.

Detailed information on this veterinary medicinal product is available in the Union Product Database (*https://medicines.health.europa.eu/veterinary*).