UBRICINA® DRY-OFF L.A.

REGISTRATION: Q-0209-125

Local suspension

Broad-spectrum cephalosporin, antimastitic, and corticosteroid anti-inflammatory during the dry-off period.

FORMULA

Each 6 g contain:	
Ceftiofur hydrochloride	500 mg
Dexamethasone sodium phosphate	1 mg
Vehicle q.s.	6 g

Use in species

Beef and dairy cattle in the dry period.

PHARMACOKINETICS:

After administration, it is rapidly metabolized to desfuroylceftiofur, which contains a sulfhydryl group and furoic acid. Desfuroylceftiofur retains an intact β-lactam ring and is the main active residue, microbiologically equipotent to ceftiofur against most pathogens affecting domestic animals.

Plasma concentrations reach a maximum of 2.85 ± 1.11 mg/mL two hours after injection, decreasing over the next 22 hours to 0.64 ± 0.14 mg/mL at 24 hours post-treatment.

Concentrations in lochia or fluids reach a maximum of 0.98 ± 0.25 mg/g at 4 hours after injection, decreasing to 0.22 ± 0.21 mg/g at 24 hours post-treatment.

Serum levels are determined by plasma protein binding and renal elimination rate; distribution is limited to extracellular fluids, while high concentrations are found in liver, kidney, intestine, bile, lymph, and semen. It penetrates well into pleural, pericardial, and synovial fluids.

Active urinary concentrations are extremely high, though penetration into prostatic fluid is poor. Elimination is almost entirely renal, via glomerular filtration and tubular secretion, explaining urinary levels that exceed blood values.

It is metabolized in the liver to desfuroylceftiofur as the primary metabolite and to furoic acid.

Dexamethasone is rapidly absorbed after administration. Peak plasma concentrations are reached within 1–2 hours.

The duration of dexamethasone's action depends on the mode of application and perfusion of the site. In systemic circulation, dexamethasone binds weakly to plasma proteins; only the unbound fraction is active.

The drug is rapidly distributed in the kidneys, intestines, liver, skin, and muscles. Corticosteroids cross the placental barrier and are excreted in milk.

Dexamethasone is metabolized in the liver to inactive products eliminated in urine. Elimination half-life is 2.8–3.5 hours and biological half-life is 36–54 hours.

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PHARMACODYNAMICS:

The bacterial cell wall is essential for bacterial growth and development and has a heteropolymeric component, peptidoglycan, which provides mechanical stability due to its lattice structure.

This peptidoglycan consists of glucan chains that are linear branches of two alternating amino sugars: N-acetylglucosamine and N-acetylmuramic acid, cross-linked by peptide chains.

Biosynthesis involves about thirty bacterial enzymes and occurs in three phases:

Formation of the precursor in the cytoplasm.

UDP acetylmuramyl-pentapeptide and UDP acetylglucosamine to form a long polymer.

A transpeptidation reaction is generated, carried out by a transpeptidase, bound to the cell membrane, giving peptidoglycan as the final product.

Thus, ceftiofur acts by blocking cell wall formation, inhibiting transpeptidase and the transpeptidation mechanism of amino sugars, thereby causing bacterial death.

Glucocorticoids are natural hormones that prevent or suppress immune and inflammatory responses when administered at pharmacological doses. Free glucocorticoids readily cross cell membranes and bind to specific cytoplasmic receptors, inducing responses that modify transcription and, therefore, protein synthesis.

These responses include inhibition of leukocyte infiltration at the site of inflammation, interference with inflammatory mediators, and suppression of immune responses.

The anti-inflammatory action of glucocorticoids involves inhibitory proteins of phospholipase A2, known as lipocortins. In turn, these proteins control the biosynthesis of potent inflammatory mediators such as prostaglandins and leukotrienes.

Some glucocorticoid responses include reduction of edema and general suppression of the immune response.

INDICATIONS FOR USE AND TARGET SPECIES:

For preventive treatment of clinical, subclinical, acute, or chronic mastitis caused by Gram-positive and Gram-negative organisms, including beta-lactamase–producing strains, in cattle during the dry-off period.

DOSAGE:

Cattle: One syringe (6 g) in each mammary gland to be treated.
Apply immediately after milking and disinfecting the teat sphincter; gently massage the mammary gland to achieve better diffusion of the medication.
Sealing the teats is recommended.
Single dose at the veterinarian's discretion.

ROUTE OF ADMINISTRATION: Intramammary

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STORAGE CONDITIONS:

Store the product in a cool place at no more than 30 °C, dry and protected from light. Keep out of reach of children.

WARNINGS:

Do not administer to animals sensitive to the ingredients in the formula.

Keep out of reach of children and domestic animals.

Consult a Veterinarian.

Sale requires a medical prescription.

For exclusive use by the Veterinarian.