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Albiotic®

MASTITIS TREATMENT

LINCOMYCIN + NEOMYCIN



UNIQUE* SYNERGISM



Albiotic® • A UNIQUE* COMBINATION OF LINCOMYCIN & NEOMYCIN

DIFFERENTIATED MODE OF ACTION

CELL WALL

β-LACTAM ANTIBIOTICS

Inhibit the final stage of the cell wall synthesis

CELL MEMBRANE

RNA

CYTOPLASM

RIBOSOME 50S

LINCOMYCIN

LINCOMYCIN

Binds to the 50S ribosomal subunit: inhibits protein synthesis

RIBOSOME 30S

NEOMYCIN

NEOMYCIN

Binds to the 30S ribosomal subunit: inhibits protein synthesis

DNA

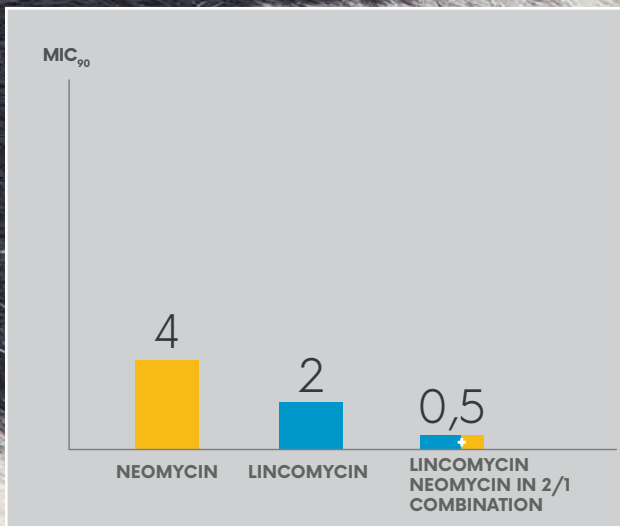
The combination is active against β-lactam resistant bacterial strains

Albionic® • A UNIQUE* COMBINATION OF LINCOMYCIN & NEOMYCIN

BROAD-SPECTRUM ACTIVITY AGAINST THE PREDOMINANT MASTITIS PATHOGENS

GRAM POSITIVE				GRAM NEGATIVE	
<i>Streptococcus uberis</i>	<i>Streptococcus agalactiae</i>	<i>Streptococcus dysgalactiae</i>	<i>Staphylococcus aureus</i>	<i>Escherichia coli</i>	Other enterobacteriaceae
LINCOMYCIN				NEOMYCIN	

Lincomycin is a lincosamide antibiotic with specific activity against Gram positive bacteria, particularly *Staphylococcus spp* and *Streptococcus spp*. Neomycin is an aminoclygoside antibiotic active against Gram positive bacteria particularly *Staphylococcus spp* and Gram negative bacteria. The combined spectrum of activity of Lincomycin and Neomycin covers the major mastitis pathogens including penicillin-resistant strains of staphylococci.



Deluyker, H.A., J.F.M. Nouws, S.N. Van Oye and T.J. Gilbertson - Concentrations of neomycin and lincomycin in milk during and following three successive intramammary infusions of a modified LINCOCIN FORTE in normal lactating dairy cows. Pharmacia & Upjohn Technical Report 804-7926-95-001, 25 January 1996

IN COMBINATION, LINCOMYCIN & NEOMYCIN HAVE A SYNERGISTIC EFFECT ON *STAPH. AUREUS*

- The combination has a lower MIC than either antibiotic on its own
- MIC₉₀ values (µg/ml) of Lincomycin, Neomycin & the Lincomycin/Neomycin combination for *Staphylococcus aureus*

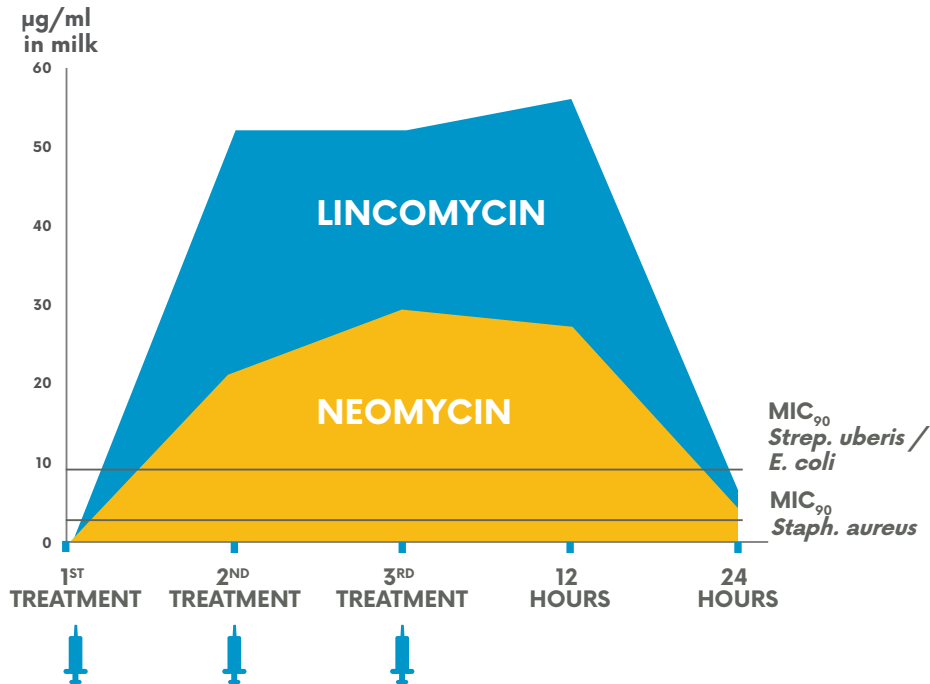
Albionic® is effective against the bacteria commonly responsible for clinical mastitis: *Staph. aureus*, *Strep. uberis*, *Strep. dysgalactiae*, *Strep. agalactiae* and *E. coli*


In vitro studies demonstrate that the combination has bactericidal activity against *Staph. aureus* and *E. coli*

Albiotic® • A UNIQUE* COMBINATION OF LINCOMYCIN & NEOMYCIN

LINCOMYCIN & NEOMYCIN

REACH HIGH THERAPEUTIC LEVELS IN MILK



 Therapeutic levels of the combination in milk are maintained between the treatment intervals and for the 12 hours following the final tube.

Ref: Carryn et al., Inf Dis Clin N Am (2003) 17 615-635

The antibiotic combination of Lincomycin and Neomycin demonstrated a synergistic & maintained bactericidal effect on *Staph. aureus*

Albiotic® is a broad-spectrum 1st line intramammary antibiotic when the first symptoms of mastitis appear



Albionic® • EASY ADMINISTRATION & RAPID DIFFUSION

TARGET LOCATIONS OF MAIN CLINICAL MASTITIS PATHOGENS

	MILK/DUCTS	UDDER TISSUE	BLOOD
<i>Streptococcus agalactiae</i>	+++	---	---
Other Streptococci	+++	+	---
<i>Staphylococcus aureus</i>	+	+++	---
<i>Coagulase-negative staphylococci</i>	+++	---	---
Coliforms	+	---	+++

The treatment needs to target specific locations

Ref: R. J. Erskine, S. Wagner, F. J. DeGraes. Mastitis therapy and pharmacology. The Veterinary Clinics Food Animal Practice 19 (2003) 109-138

AQUEOUS BASE FORMULATION

- ✦ The aqueous base allows rapid dispersal
- ✦ Easy to administer in thick, hard quarters
- ✦ Excellent tolerance in tissues

RAPID AND EXTENSIVE DIFFUSION OF LINCOMYCIN (RELATED TO MACROLIDES)

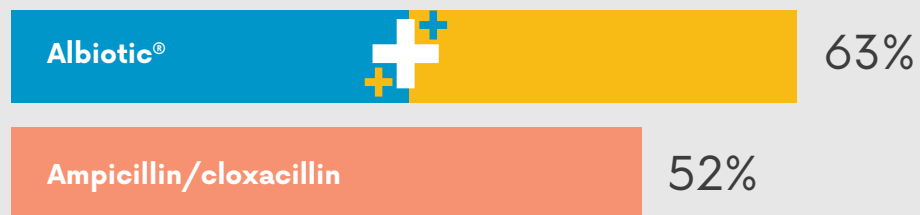
- ✦ Small molecule size and high lipid solubility
- ✦ Provides good tissue and intra-leucocyte diffusion
- ✦ Within 30 minutes of intramammary infusion, the Lincomycin molecules can be detected within blood plasma
- ✦ Good penetration of the udder, good diffusion across the blood-milk barrier and effective uptake into the circulation

**Albionic® aqueous formulation respects tissues
and Lincomycin diffuses rapidly and extensively**

Albiotic® • A PROVEN EFFICACY ON UNDIFFERENTIATED CLINICAL MASTITIS

ALBIOTIC® HAS DEMONSTRATED **HIGH CLINICAL CURE RATES** IN FIELD CONDITIONS

Clinical cure rate by treatment



Ref: Deluyker HA., Chester S.T., Van Oye N.A. A multilocation clinical trial in lactating dairy cows affected with clinical mastitis to compare the efficacy in lactating cows of intramammary infusions of a lincomycin/neomycin combination with an ampicillin/cloxacillin combination. J. vet. Pharmacol. Therap. 22, 274-282

The Albiotic® clinical cure was significantly better than the Ampicillin/Cloxacillin clinical cure ($p=0,035$)

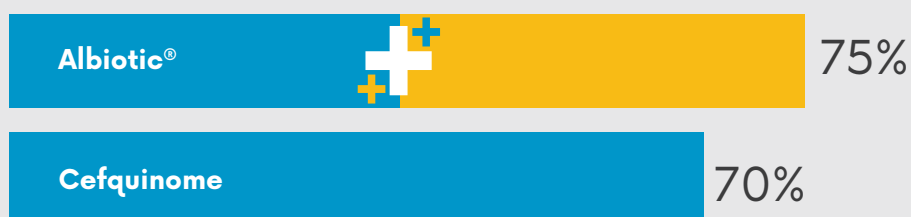
Broad-spectrum activity is suited to first line treatment because of the synergistic combination



Albiotic® • A PROVEN EFFICACY ON UNDIFFERENTIATED CLINICAL MASTITIS

ALBIOTIC® HAS DEMONSTRATED HIGH BACTERIOLOGICAL CURE RATES IN FIELD CONDITIONS

Bacteriological cure rate



Ref: Kroemker, V et al., WBC 2008 poster presentation 562

- + *Streptococcus uberis* and *Staphylococcus aureus* are important causes of mastitis in dairy cows around the world
- + There is extensive use of β -lactams e.g. cephalosporins

Albiotic® has demonstrated efficacy in treating clinical mastitis in lactating dairy cows under field conditions

Albiotic® fits the current responsible use in antibiotic vet prescription guideline



Albiotic®

MASTITIS TREATMENT

LINCOMYCIN + NEOMYCIN

**TREATMENT REGIMEN:
A TUBE 3 TIMES
EVERY 12 HOURS**

**WITHDRAWAL TIME:
MILK 84 HOURS
& MEAT 3 DAYS**



**Synergistic combination
of Lincomycin and Neomycin
on *Staph.aureus***



**Broad-spectrum activity
suited to first line treatment
of clinical mastitis**



**Diffuses rapidly and
extensively**



**Different mode of action,
not affected by β -lactamase**

*Unique because of a none- β lactam combination - Used references can be obtained upon demand.
Please consult the local label and your veterinary surgeon for exact indications and posology.
Further information can be obtained at www.huvepharma.com or from your Huvepharma representative.
Legal category: POM-V. Vm 30282/4035
Use medicines responsibly.

Albiotic® Intramammary Solution for lactating cow - COMPOSITION : a syringe of 10ml contains Lincomycin (as Lincomycin hydrochloride) 330 mg and Neomycin (as Neomycin sulphate) 100 mg - INDICATIONS : For the treatment of mastitis in lactating cattle. The product is effective against *Staphylococcus species* (both penicillinase and non-penicillinase producers) including *Staphylococcus aureus*, *Streptococcus species* including *Streptococcus agalactiae*, *Streptococcus dysgalactiae* and *Streptococcus uberis*, and coliform bacteria including *Escherichia coli*. - CONTRAINDICATIONS : None - SPECIAL WARNINGS FOR EACH TARGET SPECIES : None - Special precautions for use : Special precautions for use in animals : None. Special precautions to be taken by the person administering the veterinary medicinal product to animals: Avoid contact with the solution. Wash hands and any exposed skin immediately after use - ADVERSE REACTIONS : None known - WITHDRAWAL PERIOD(S) : Milk: 84 hours. Meat: 3 days -



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