

# PENETHAJECT™

Antibiotic injection for mastitis in cattle



ACTIVE CONSTITUENT:  
15g/vial PENETHAMATE HYDRIODIDE

**Mix once. Inject daily. Treats all 4 quarters.**

# DAIRY**ANTIBIOGRAM**

## Antimicrobial stewardship and best practice

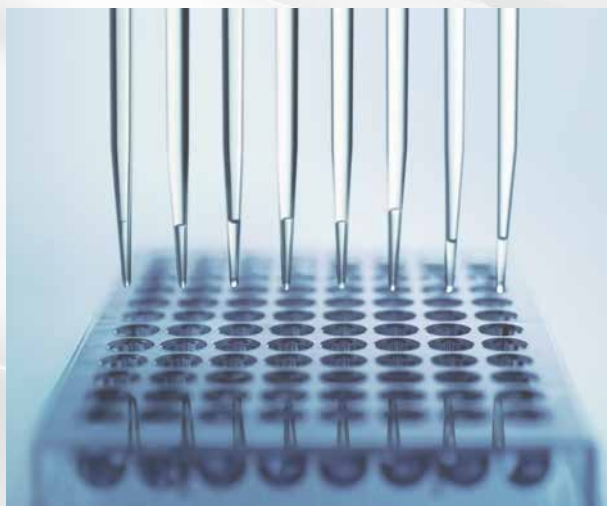
---

Elanco is committed to helping you protect and preserve the best medicines for the cows in your care, minimising the risk of resistance, through the provision of data, enabling responsible use of antimicrobials in mastitis.

## What is DAIRY**ANTIBIOGRAM**

---

DAIRY**ANTIBIOGRAM** is an Elanco initiative which uses an automated microbroth dilution system to provide economical MIC data unique to the farm, on antimicrobial susceptibility to the common actives available for mastitis therapy in Australia.



## Value to the vet

---

- › Provides data which allows vets to make educated prescription decisions based on real MIC values for that specific farm.
- › Adds real and visible value to Milk Quality and RVM consults.
- › Enables farmers to appreciate the value for money of veterinary advice.
- › Increases the value of veterinarians to the farmers business and ensures that the "expert advisor on mastitis" remains the veterinarian.
- › The test is a new product to sell to your farmers, improving practice income.
- › Bulk milk tests can be done once or twice yearly (early and late lactation) for mastitis management reviews.
- › Use individual cow tests to provide more detailed information in mastitis investigations.

## Value to the farmer

---

- › Educated advice on mastitis treatment choice.
- › Ensures the farmer is using the most effective treatments specific to the herd.
- › Evidence based responsible use of antibiotics on farm.

The DAIRY**ANTIBIOGRAM** also provides vital data for the Australian Dairy Industry Anti-Microbial Use Database. This supports the rational debate on anti-microbial use in agriculture, and preserves the use and efficacy of antimicrobials in the future.

**PENETHAJECT™.** Right drug. Right time. Right duration.

## Best practice mastitis treatment based on good antibiotic stewardship

In addition to improved cattle husbandry and management, health and productivity for dairy cows is improved by the responsible use of antibiotics and it is the role of the veterinarian to ensure stewardship of these medicines.



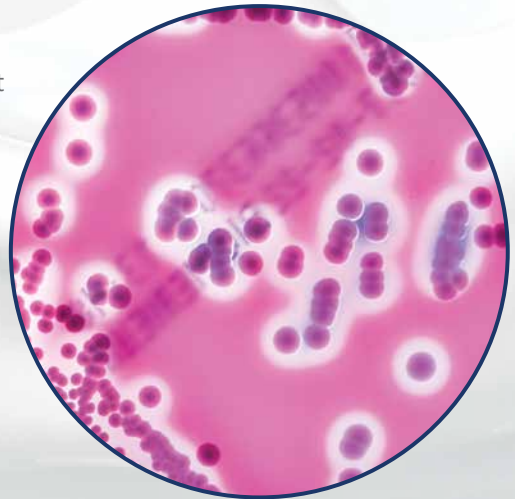
### Most common mastitis causing pathogens in Australia

Over the past two decades *S. uberis* has become one of the leading causes of clinical and subclinical mastitis in Australian and New Zealand dairy herds<sup>1</sup>.

## Why is *S. uberis* so effective as a mastitis pathogen?

***S. uberis* – factors which influence its virulence<sup>2</sup>:**

- › It is a ubiquitous microorganism, common in the environment and readily colonising the animal.
- › It creates a firm attachment to the udder wall and infects epithelial cells.
- › Biofilm formation by *S. uberis* protects the bacteria from clearance by the cows immune system and antimicrobials.



**Mix once. Inject daily. Treats all 4 quarters.**





## Penethamate mode of action<sup>3,4</sup>

- › The ingredient in Penethaject is penethamate hydriodide (an ester of penicillin G). In its parent form it is biologically inactive.
- › Following intramuscular injection it rapidly crosses the blood milk barrier, concentrating at the site of infection in the udder tissues and milk where it is hydrolysed to the active penicillin G.
- › Penethamate is more efficient in penetrating udder tissue via the mechanism of ionic entrapment than other penicillins.
- › This leads to antibiotic concentrations in the milk up to 10 times higher than those achieved by an injection of the equivalent dose of procaine penicillin G.
- › This results in a bactericidal, time dependent antimicrobial action on cell wall synthesis.

**When selecting an antibiotic to treat mastitis, choices should be based on MIC testing and the narrowest spectrum drugs effective against the infection.**

**Mix once. Inject daily. Treats all 4 quarters.**

# PENETHAJECT™. Right drug. Right time. Right duration.

## Introduction to Penethaject

As an injectable antibiotic, Penethaject is well suited for treating cows where there is more than one quarter infected, or where intramammary treatment is difficult or inconvenient.

One pack includes 6 unbreakable PET vials of powder and diluent plus syringes and needles.

Each PET vial contains 15g of Penethamate hydriodide powder, accompanied by a PET vial containing 48mL (min) sterile diluent, used to reconstitute the powder.



## How to use:

1. Reconstitute the powder contained in the 15g PET vial by adding 48mL of the sterile diluent supplied. Additional diluent is provided. To ensure accurate dosing, carefully add 48mL diluent only.
2. Shake well until all powder is fully dissolved
3. Give the required dose of the solution by intramuscular injection
4. Store below 25°C reconstituted 2 days (below 25°C) or 1 week (2 – 8°C)

**Mix once for three days use. Once reconstituted, the solution remains stable for the following two days use if stored below 25°C.**

## Easy daily dosing

10 – 15mg per kg bwt daily or 20mL for a 500kg cow.  
Repeat daily dose for 1 – 5 days depending on condition.

## Milk withhold periods:

72 hours (6 milkings) following multiple treatments.  
(36 hours following single treatment)



**Mix once. Inject daily. Treats all 4 quarters.**



## Elanco – providing solutions in:

### Fertility



### Calf health



### Nutrition and Metabolics



### Udder health

## References

- 1 Zadoks RN Epidemiology & Infection 2003 335 (v1.0)
- 2 Reinoso EB Journal of Microbial and Biochemical Technology 2017 237 (v1.0)
- 3 MacDiarmid SC New Zealand Veterinary Journal 1978 290 (v1.0)
- 4 Guccione J Journal of Dairy Science 2014 2219 (v1.0)

To find out more contact us on **1800 995 709** or visit  
**[www.farmanimal.elanco.com/au](http://www.farmanimal.elanco.com/au)**