

# Denagard<sup>®</sup>

The drug of choice for  
*ileitis treatment and control*



*Lawsonia intracellularis* strains are more sensitive to Denagard than other remedies which is why Denagard is the drug of choice for ileitis treatment.



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# Lawsonia intracellularis strains are consistently more sensitive to Denagard

- Denagard has lower intra- and extracellular MIC values against *L. intracellularis* compared to other antimicrobials including tylosin<sup>1</sup>

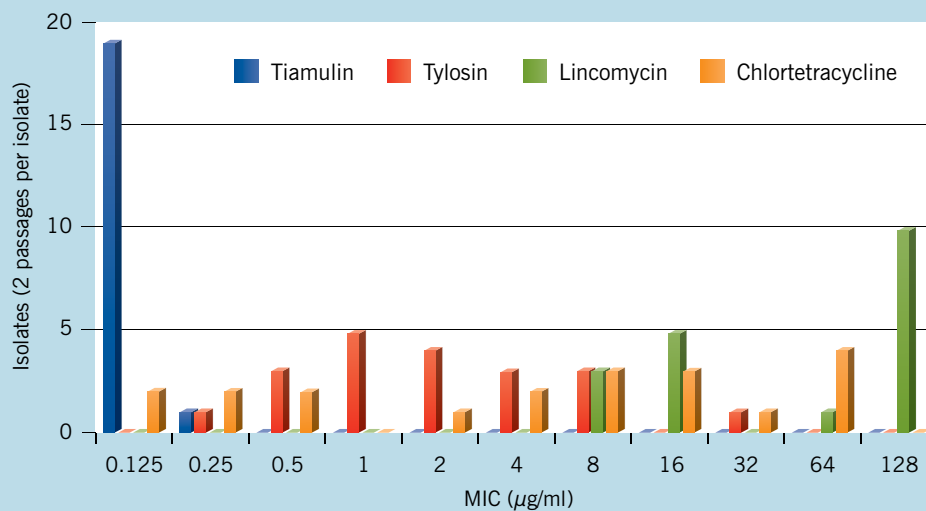
**Table 1: Intracellular and extracellular MIC ranges for *L. intracellularis* strains from the United States and Europe<sup>1</sup>**

Antimicrobial agent	US <i>L. intracellularis</i> isolates (n=6)		European <i>L. intracellularis</i> isolates (n=4)	
	Intracellular MIC (µg/ml)	Extracellular MIC (µg/ml)	Intracellular MIC (µg/ml)	Extracellular MIC (µg/ml)
Chlortetracycline	4-64	32-64	0.25-16	16-64
Lincomycin	16->128	>128	8-64	32->128
Tylosin	0.25-32	1->128	0.5-2	2-16
Tiamulin	0.125-0.5	1-32	0.125	1-4

Because *L.intracellularis* strains are consistently more susceptible to Denagard, it is the ideal drug for ileitis treatment

- Denagard MICs against *L. intracellularis* demonstrate markedly less variability compared with other antimicrobials including tylosin<sup>1</sup>

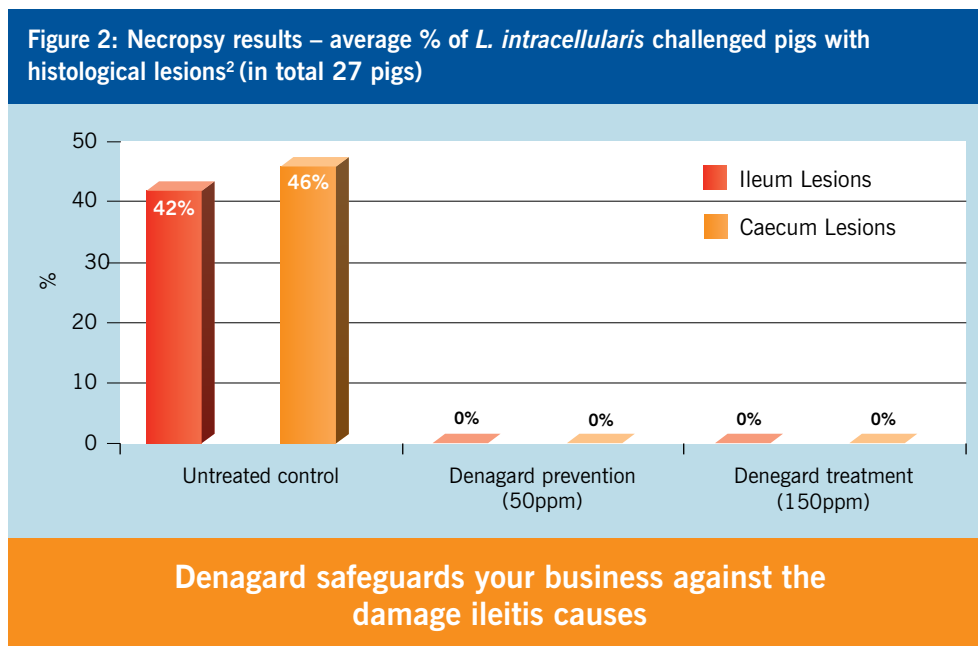
**Figure 1: Distribution of MIC of four antibiotics against *L. intracellularis* isolates from United States and Europe (10 isolates in total)<sup>1</sup>**



Choosing Denagard gives you the most consistent efficacy against *L.intracellularis* strains from around the world

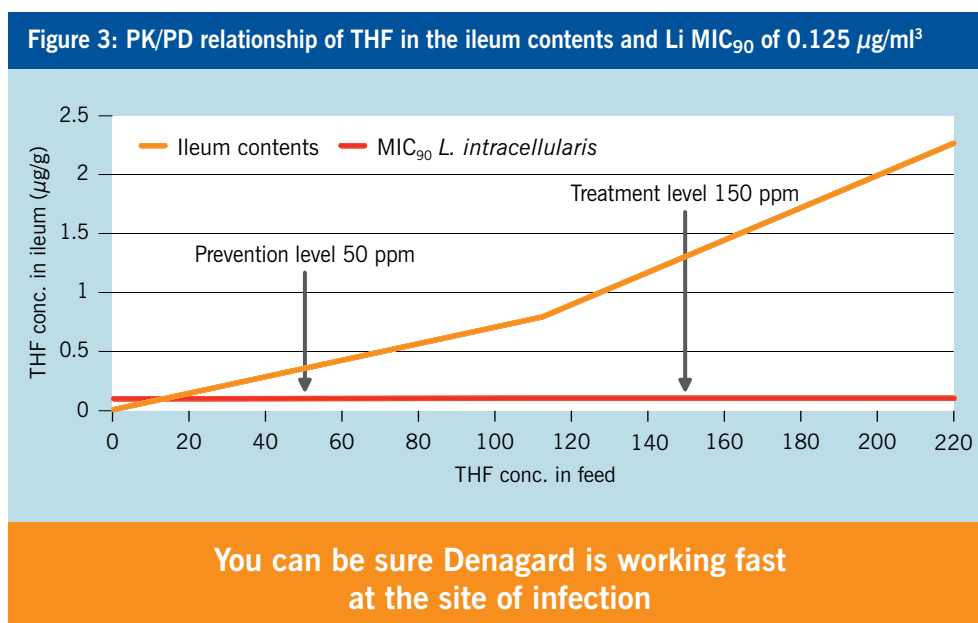
## Denagard proven 100% effective to treat and prevent ileitis

- Field trials prove the outstanding efficacy of Denagard for the treatment and control of *L. intracellularis* infections<sup>2</sup>



## Denagard concentrates in the ileum where it is needed

- Denagard medication provides high Tiamulin Hydrogen Fumarate (THF) concentrations in the ileum and colon<sup>3,4</sup>



# Denagard puts your profits back on track

- In a Japanese trial, Denagard treated pigs showed a greater cost benefit (+€23.60 per pig) and ROI than the Lincomix® treated pigs<sup>5</sup>

**Table 2: Cost / Benefit (€) evaluation for Japanese ileitis treatment study<sup>5</sup> (in total 276 pigs)**

	Incomes	Expenses	Benefit	Benefit / pig sold	Benefit vs. Lincomix
Lincomix	26,502	22,507	3,994	39.20	–
Denagard	30,017	22,795	7,221	62.80	+23.60 €

- In a German trial, Denagard treated pigs showed a greater cost benefit (+€4.79 per pig) and ROI than the Tylan® treated pigs<sup>6</sup>

**Table 3: Cost / Benefit (€) evaluation for German treatment study<sup>6</sup> (in total 208 pigs)**

	Incomes	Expenses	Benefit	Benefit / pig sold	Benefit vs. Lincomix
Tylan	14,002	10,192	3,809	41.30	–
Denagard	14,265	10,365	3,900	46.09	+4.79 €

**Denagard gives you more profit per pig**

## Summary

- *L. intracellularis* strains are significantly more sensitive to Denagard
- Denagard is proven 100% effective to treat and prevent ileitis
- Denagard's ileum concentrations far exceed the tiamulin MIC<sub>90</sub> value against *L. intracellularis*
- Denagard is proven to deliver producers more profit per pig for ileitis treatment
- Denagard has been used successfully for ileitis eradication coupled with hygiene and management control measures

### References:

1. S.Wattanaphansak, R.S.Singer, C.J.Gebhart (2009): In vitro antimicrobial activity against 10 North American and European *L.intracellularis* isolates. *Veterinary Microbiology*, 134, 305-310.
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4. M.D.Anderson, S.L.Stroh, S.Rogers (1994): Tiamulin (Denagard) activity in certain swine tissues following oral and intramuscular administration. Proc. AASP Congress, Chicago, 115-117.
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6. U.Klein, W.Löhlein, A.Jensen-Atwood (2006): A cost benefit study on the control of Porcine Proliferative Enteropathy in a commercial grower unit in Germany. Proc. 19th IPVS Congress, Copenhagen Denmark, Vol.2, 167.

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