# Animal models

# Telavancin has demonstrated efficacy against MRSA in a wide range of animal infection models

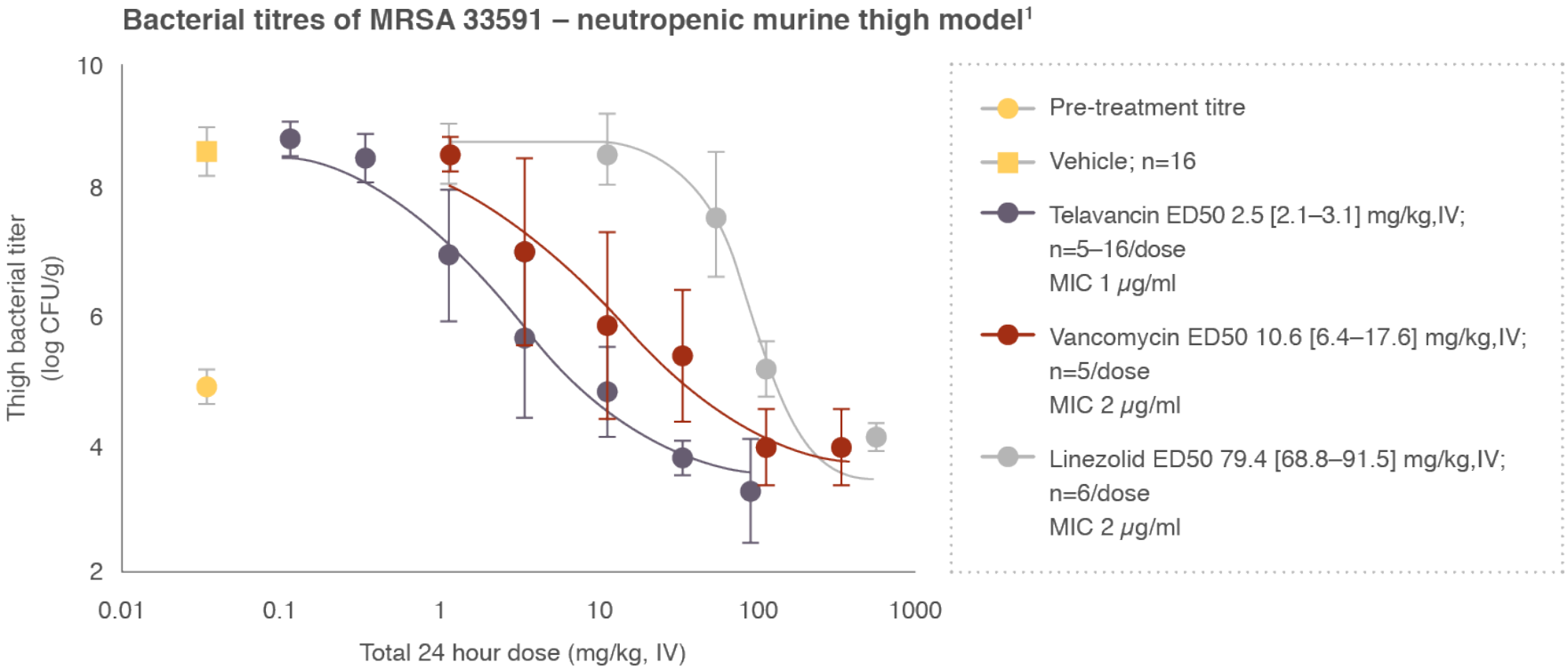
- Soft tissue infections
  - Neutropenic murine thigh model[1]
- Lung infection
  - Neutropenic murine pneumonia model[2]
- Deep-seated infection
  - Rabbit aortic valve endocarditis model[3]
- Systemic infection
  - Neutropenic murine peritonitis-bacteraemia model[4]
- CNS infection
  - Rabbit meningitis model[5]

MRSA, methicillin-resistant *S. aureus*.

**1.** Hegde SS *et al. Antimicrob Agents Chemother* 2004; **48**: 3043–50. **2.** Reyes N *et al. Antimicrob Agents Chemother* 2005; **49**: 4344–6. **3.** Madrigal A *et al. Antimicrob Agents Chemother* 2005; **49**: 3163–5. **4.** Reyes N *et al. Antimicrob Agents Chemother* 2006; **56**: 426–5. **5.** Stucki A *et al. Antimicrob Agents Chemother* 2006; **50**: 770–3.

# Telavancin is significantly more potent than vancomycin or linezolid against MRSA in a neutropenic murine thigh model[1]

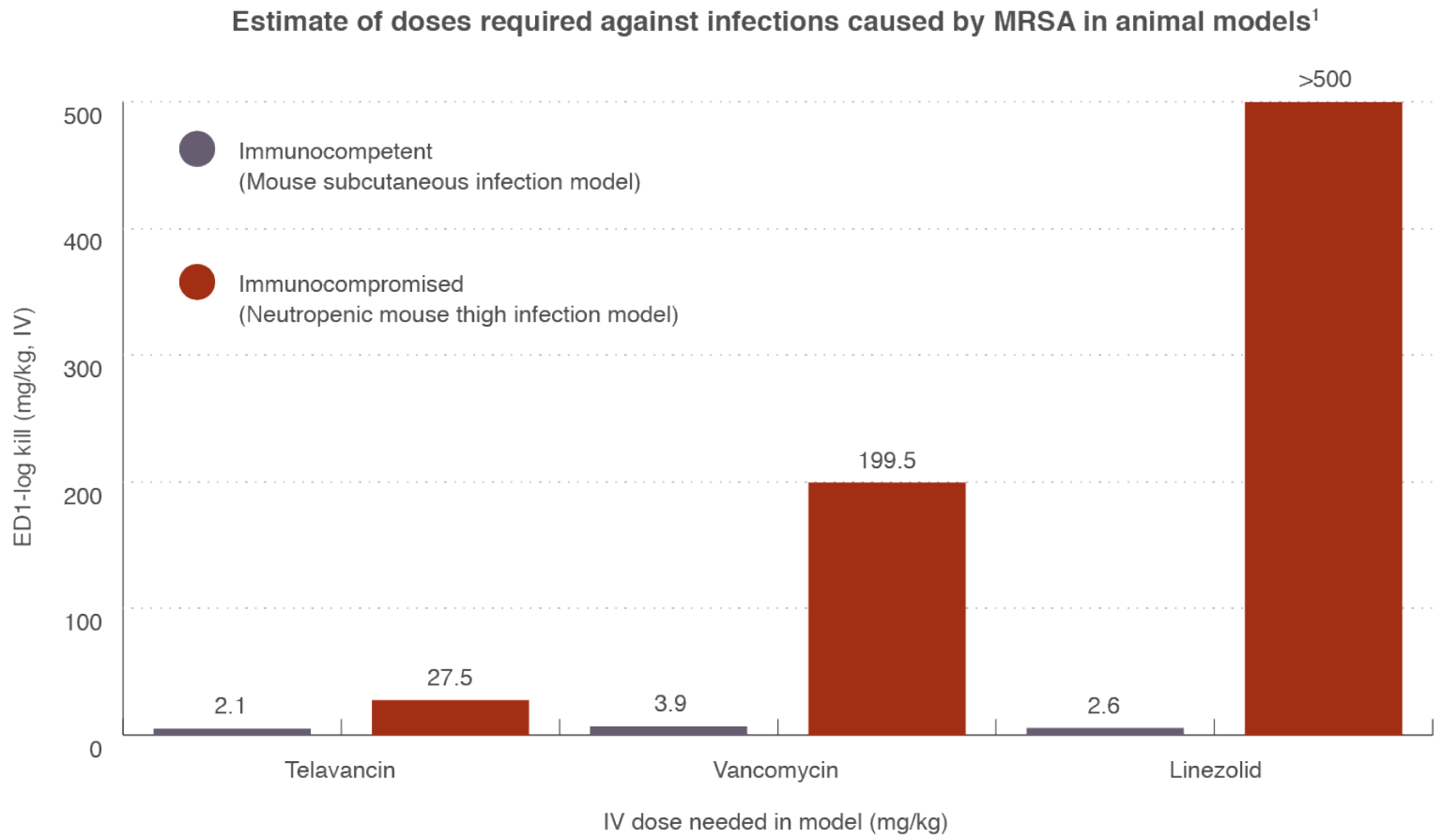
- Telavancin OD was 4 times more potent than vancomycin BID and 32 times more potent than linezolid BID ($P<0.05$)[1]




OD, once daily; BID, twice daily. Graph values denote mean ± SD. MRSA, methicillin-resistant *S. aureus*; ED, effective dose; IV, intravenous.

**1.** Hegde SS *et al. Antimicrob Agents Chemother* 2004; **48**: 3043–50.

# Bactericidal activity of telavancin against MRSA *in vivo* is less affected by immune status than that of vancomycin and linezolid[1]




Against MRSA, telavancin was 4- and 32-fold more potent ($P < 0.05$) than vancomycin and linezolid respectively.

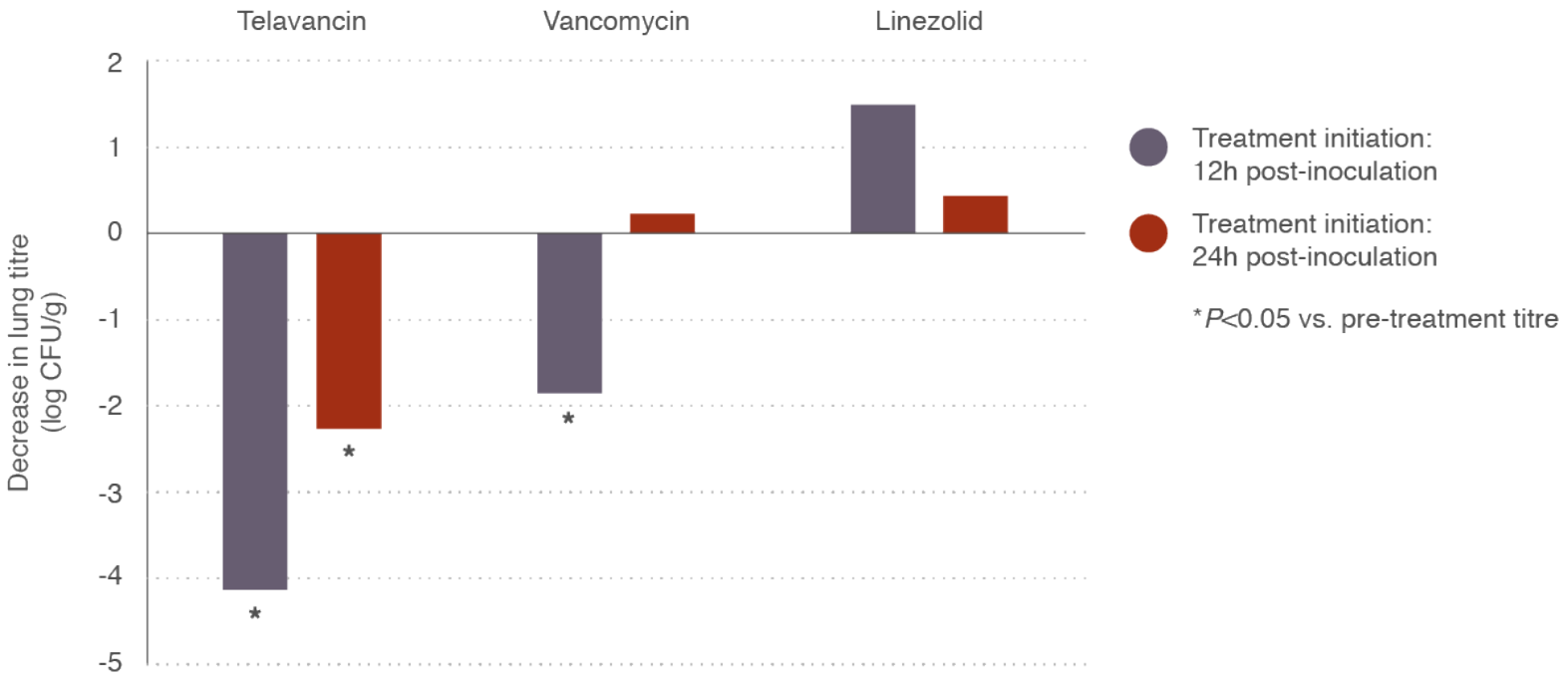
MRSA, methicillin-resistant *S. aureus*; ED1-log kill, dose required to produce a titre decrease of 1 log colony-forming unit (CFU)/g from pre-treatment.

**1.** Hegde SS *et al. Antimicrob Agents Chemother* 2004; **48**: 3043–50.

# Telavancin has significant bactericidal activity against MRSA when initiated 12- or 24-hours post-inoculation[1]

- Telavancin resulted in a significantly greater reduction in lung bacterial titre from pre-treatment values, vs. vancomycin and linezolid in an animal model ($P<0.05$)[1]

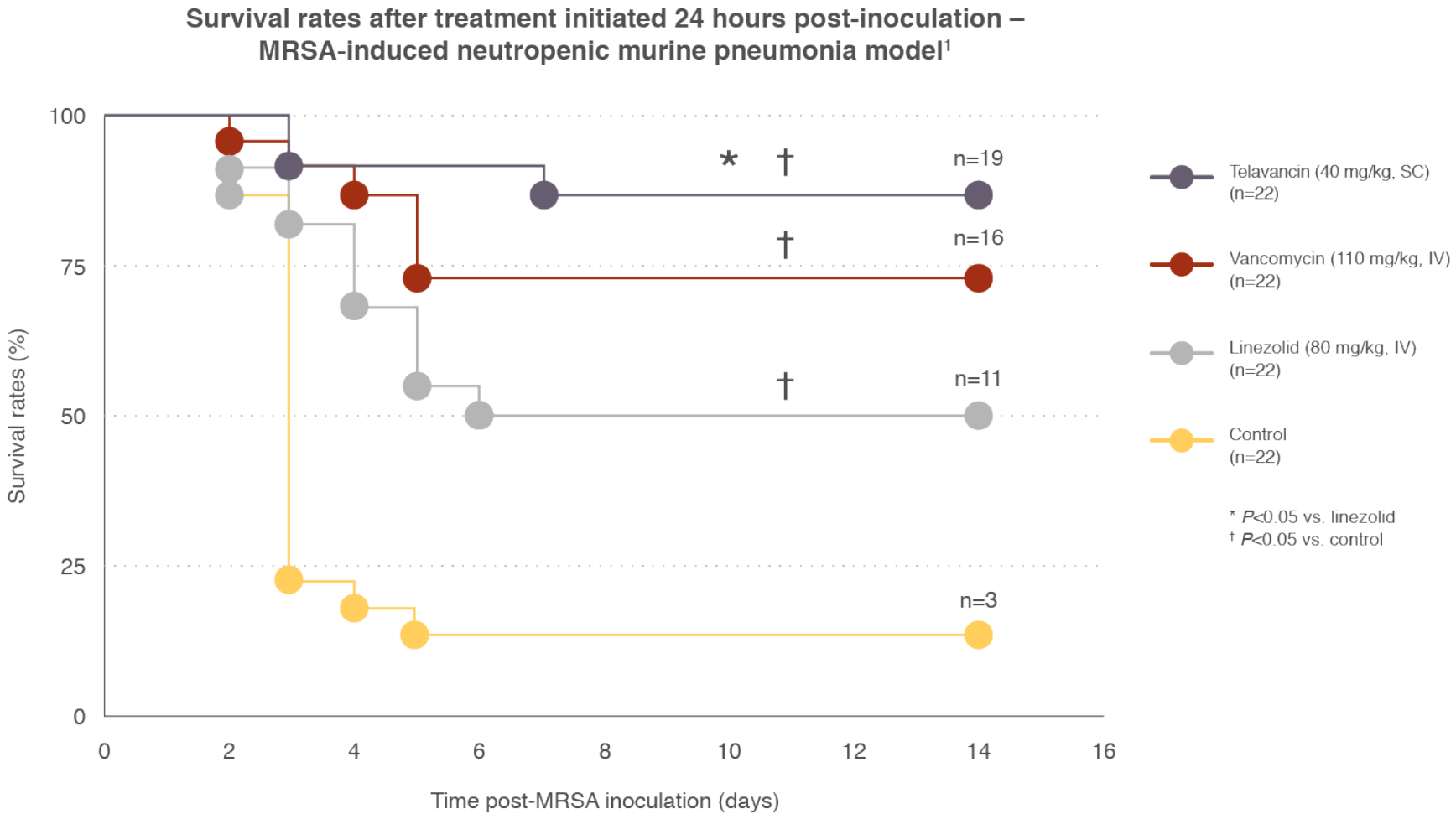
**Bacterial titres at 48 hours post-inoculation – MRSA-induced neutropenic murine pneumonia model[1]**




CFU, colony-forming unit.

**1.** Reyes N *et al. Antimicrob Agents Chemother* 2005; **49**: 4344–6.

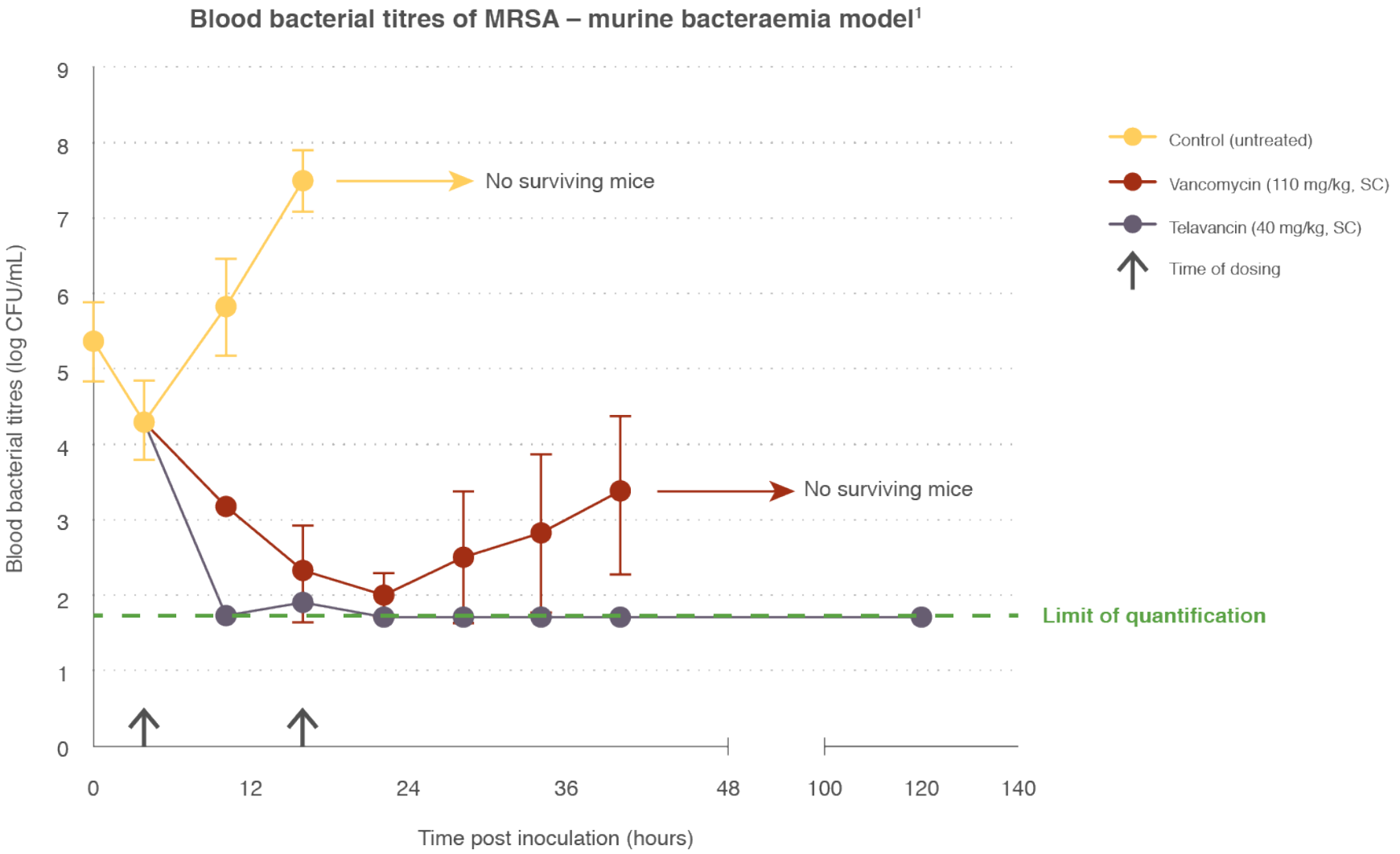
# Telavancin significantly improves survival against MRSA vs. linezolid[1]




MRSA, methicillin-resistant *S. aureus*. IV, intravenous; SC, subcutaneous.

**1.** Reyes *N et al. Antimicrob Agents Chemother* 2005; **49**: 4344–6.

# Telavancin is significantly more bactericidal against MRSA than vancomycin *in vivo*[1*]

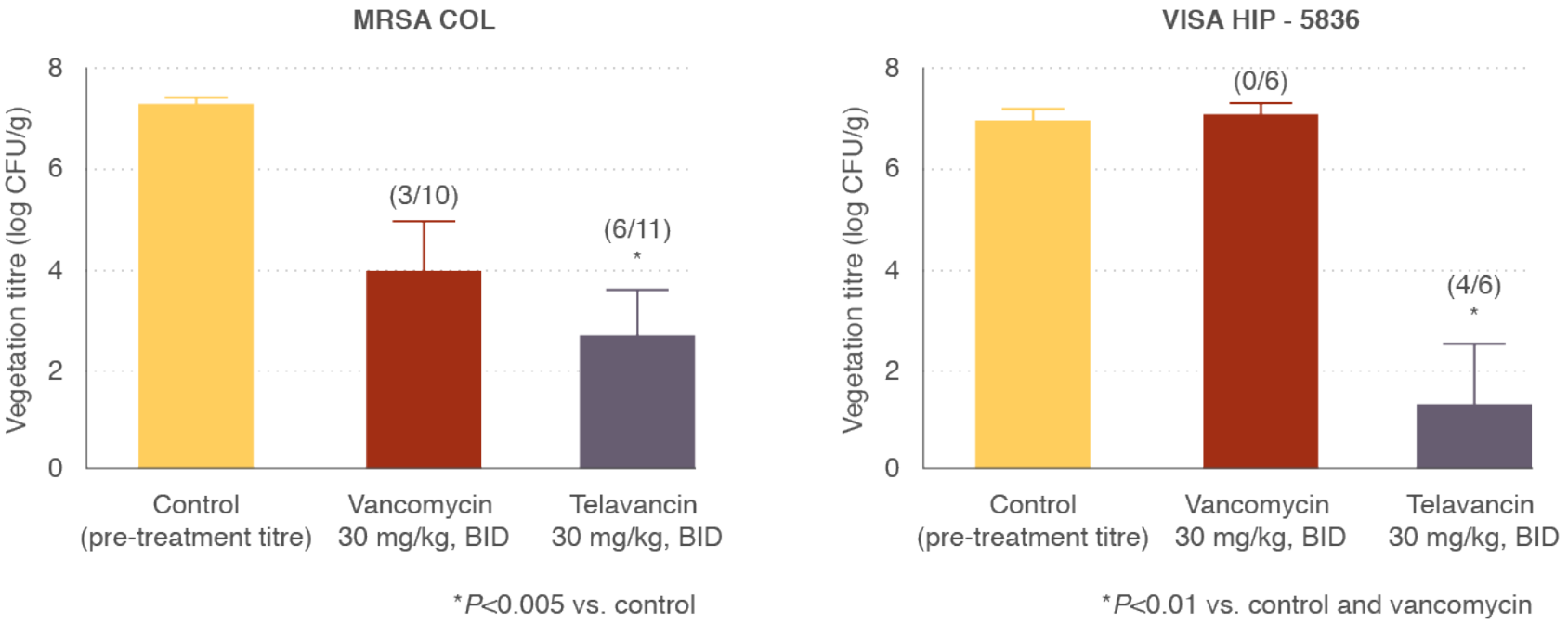



MRSA, methicillin-resistant *S. aureus*. CFU, colony-forming unit; SC, subcutaneous; LOQ, limit of quantification. * $P < 0.05$

**1.** Reyes N *et al. Antimicrob Agents Chemother* 2006; **56**: 426–5.

# Telavancin is more effective than vancomycin in endocarditis[1]

**Vegetation titres after 4 days of treatment – rabbit aortic valve endocarditis model induced by two strains of *S. aureus*[1]**




Vancomycin and telavancin were tested at AUC-equivalent human doses. Numbers in parentheses denote numbers of sterile vegetations.
MRSA COL, a highly methicillin-resistant *S. aureus* strain; VISA HIP, a vancomycin-intermediate *S. aureus* strain; CFU, colony-forming unit; BID, twice daily.

**1**. Madrigal A *et al. Antimicrob Agents Chemother* 2005; **49:** 3163–5.