

Czech Academy of Agricultural Sciences



Open Access Agricultural Journals

VETERINÁRNÍ MEDICÍNA
VETMED

[home](#) [page](#) [about us](#) [contact](#)

[us](#)

Table of
Contents

**VETMED
2015**

**VETMED
2014**

**VETMED
2013**

**VETMED
2012**

**VETMED
2011**

**VETMED
2010**

**VETMED
2009**

**VETMED
2008
VETMED
2007
VETMED
2006
VETMED
2005
VETMED
2004
VETMED
2003
VETMED
2002
VETMED
2001
VETMED
Home**

**Editorial
Board**

For Authors

- **Authors
Declaration**
- **Instruction
to Authors**
- **Guide for**

Authors

▪ **Fees**

▪ **Submission**

Subscription

Veterinarni Medicina

Antibacterial potential of lactobacilli isolated from a lamb

Bilkova A, Kinova Sepova H, Bukovsky M, Bezakova L:

Veterinarni Medicina, 56 (2011): 319-324

[[fulltext](#)]

The antimicrobial properties of three potential probiotic strains of lactobacilli isolated from a lamb (*Lactobacillus murinus* C, *Lactobacillus mucosae* D and *Lactobacillus reuteri* E) were studied using the streak line method and the agar well diffusion assay. The probiotic lactobacilli strains *Lactobacillus rhamnosus* ATCC 53103, *Lactobacillus reuteri* ATCC 55730, *Lactobacillus reuteri* ATCC 55845 and *Lactobacillus plantarum* DSM 9843 were used for comparison. Using the streak line method the inhibitory activity of lactobacilli products towards ten Gram-positive and Gram-negative potential pathogenic bacteria under different cultivation

preincubation of lactobacilli for 24 h or 48 h) was tested. The strongest inhibitory activity was demonstrated by the *Lactobacillus reuteri* E strain. The most sensitive strains to the antimicrobial activity of lactobacilli were *Yersinia enterocolitica* clinical isolate (19.9 ± 6.8 mm) and *Listeria monocytogenes* ATCC 51774 (17.7 ± 6.0 mm) after microaerobic and anaerobic preincubation, respectively. Generally, microaerobic conditions and longer preincubation of lactobacilli resulted in stronger inhibition of target bacteria. The inhibitory activity of lactobacilli towards selected lactobacilli strains was also tested. Only low inhibition of growth was observed. In the agar well diffusion assay the inhibitory effect of natural and modified lactobacilli culture cell-free supernatants, obtained from MRS broth cultures, on *Staphylococcus aureus* ATCC 6538 growth was determined. Supernatants were modified by heat (10 min/60 °C; 60 min/100 °C) and protease treatment and neutralization of pH. Neutralization elicited the most significant impact on the activity of supernatants and resulted in total loss of activity. After all other

modifications supernatants retained some residual activity. The highest inhibitory activity was observed for the cell-free supernatant produced by *Lactobacillus mucosae* D.

Keywords:

Lactobacillus spp.; antibacterial activity; probiotics; cell-free supernatants

[[fulltext](#)]

© 2015 Czech Academy of Agricultural Sciences

XHTML1.1 VALID

CSS VALID