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Czech J. Food Sci.

**Složilová I., Purkrťová
S., Kosová M.,**

Mindurova M., Svrlakova E., Demnerová K.:

Antilisterial activity of lactic acid bacteria against *Listeria monocytogenes* strains originating from different sources

Czech J. Food Sci., 32 (2014): 145-151

Eight individual bacteriocin-producing lactic acid bacteria (LAB) strains and three bacteriocin-non-producing cheese starter cultures were evaluated for their ability to inhibit the growth of six *Listeria monocytogenes* strains, originating from the guinea-pig lymph nodes, raw cow milk, and manufacturing dairy equipment. Results showed that either live cells or cell-free neutralised supernatant (CFNS) and/or heated CFNS of six individual LAB strains (*Lcc. lactis* subsp. *lactis* CCDM 416 and NIZO R5, *Lbc. plantarum* HV 11 and DC 1246, *P. acidilactici* HV 12, and *Ent. mundtii* CCM 1282) and one starter culture (DELVO-

ADD® 100-X DSF) were effective in the suppression of at least one listeria strain. Neither any individual LAB strain nor starter culture was antagonistic toward all studied *L. monocytogenes* strains, indicating diverse sensitivity/resistance among *L. monocytogenes* strains to antimicrobial compounds of LAB. The significant susceptibility of listerias isolated from raw milk and dairy equipment together with the strong antilisterial activity of DELVO-ADD® 100-X DSF could be applied in dairy technology, where commonly used starter cultures could play both the biopreservative and fermentation role.

Keywords:

Listeria; starter culture; antilisterial effect; bacteriocin; sensitivity; biopreservative agent

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