**Abstract**

The purpose of the study was to analyze a part of the nucleotide sequences of ystB gene Y. enterocolitica strains isolated from wild animals. The material for the study consists of 30 Y. enterocolitica biotype 1A strains obtained from different wild animal species and belonging to different genotypes. Phylogenetic analysis of ystB nucleotide sequences belonging to four regular genotypes G1, G2, G3, G4 and to five groups of variations V1, V2, V3, V4, V5 revealed significant differences of Y. enterocolitica strains isolated from wild animals. The most phylogenetically distant were strains belonging to V5.

**Key words:** Yersinia enterocolitica, ystB gene, phylogenetic analysis

**Introduction**

Yersinia (Y.) enterocolitica is one of the most important foodborne pathogens, that can cause disease in humans and animals. Based on the specific biochemical features, Y. enterocolitica has been divided into six biotypes: 1A, 1B, 2, 3, 4, 5. Strains belonging to 1B and 2-5 are classically considered as pathogenic, while biotype 1A strains are commonly regarded as nonpathogenic (Bottone 2015). These strains do not carry the plasmid of Yersinia virulence (pYV) and most chromosomal virulence genes, such as ail, ystA and myfA, encoding respectively Ail (attachment-invasion locus), YstA (Yersinia stable toxin), and MyfA (mucoid Yersinia factor) (Stephan et al. 2013). Strains belonging to biotype 1A were repeatedly isolated from healthy patients, however clinical cases of yersiniosis caused by this biotype are also reported. Recent papers indicate even that the majority of Y. enterocolitica strains isolated from patients with diarrhea in Finland belongs to biotype 1A (Huovinen et al. 2010). Pathogenicity of Y. enterocolitica strains depends on plasmid and chromosomal virulence markers. One of the most genetically stable chromosomal virulence markers is yst gene, which encodes enterotoxins Yst, divided into YstI (A, B and C) and relatively recently discovered YstII. Classically, pathogenic Y. enterocolitica strains are able to produce enterotoxin YstA, while biotype 1A strains were reported to produce enterotoxin YstB, encoded by the ystB gene (Bancerz-Kisiel et al. 2017).