An atypical biotype I Actinobacillus pleuropneumoniae serotype 13 is present in North America - DTU Orbit (31/03/2019)

An atypical biotype I Actinobacillus pleuropneumoniae serotype 13 strains present in North America are described here for the first time. Different from serotype 13 strains described in Europe, North America strains are biotype I and antigenically related to both, serotypes 13 and 10. Chemical and structural analysis of the capsular polysaccharide (CPS) and lipopolysaccharide (LPS) of a representative strain revealed that the CPS is almost identical to that of the reference strain of serotype 13, having a slightly higher degree of glycosic O-acetylation. However, it produces an O-PS within the LPS antigenically and structurally identical with that of the reference strain of A. pleuropneumoniae serotype 10. The O-PS was characterized as a homopolymer of 1,2 linked β-d-galactofuranosyl residues, a structure unrelated to that of the O-PS produced by the reference strain of serotype 13. Strains from Canada and United States are antigenically, phenotypically and genotypically similar. Animals infected by one of these strains induced antibodies that were detected by a LPS-based ELISA diagnostic test using either the homologous antigen or that of serotype 10. Based on the LPS and toxin profile, these strains might be misidentified as A. pleuropneumoniae serotype 10.

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