Production of 2,3-Dihydroxybenzoic Acid by Brucella Species

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Abstract of:

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A total of 29 strains of *Brucella abortus, B. melitensis, B. suis, B. ovis, and B. neotomae* were examined for growth and catechol production in a semisynthetic low-iron medium. All strains showed reduced growth yields and, quantitatively, production of catechols varied widely among the different strains with no relationship to species, biotypes, or serotypes or *Brucella*. No clear correlation between catechol productions and growth under iron-limiting conditions was observed. The major catechol was identified as 2,3-dihydroxybenzoic acid, and neither other iron-regulated catechols nor hydroxamate type compounds were detected when representative strains of *B.* Abortus *melitensis* were grown in tryptic soy broth in the presence of iron-sequestering agents.

Evaluation of PCR and Indirect Enzyme-Linked Immunosobernt Assay on Milk Samples for Diagnosis of Brucellosis in Dairy Cattle

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A study was perfomed to evaluate the previously described PCR (C. Romero, C. Gamazo, M. Pardo, and I. López-Goñi, J. Clin. Microbiol. 33:615–617, 1995) for the diagnosis of brucellosis in dairy cattle. Milk samples from 56 *Brucella* milk culture-positive cattle and from 37 cattle from *Brucella*–free herds were examined for *Brucella* DNA by PCR and for specific antibodies by an indirect enzyme-linked immunosorbent assay (ELISA). The especificities of both tests were 100 % when testing the milk samples form *Brucella*-free cattle. The milk samples from 49 infected cattle were positive by PCR (87.5 % sensitivity), and 55 were positive by ELISA (98.2 % sensitivity). A PCR-positive sample was negative by ELISA, and 7 ELISA-positive samples were PCR negative, yielding an observed proportion of agreement of 0.91 for the two tests. Although the results suggest that ELISA is a better screening test than PCR, the combined sensitivity of the two assays was 100 %, and their simultaneous applications could be more useful than one test alone for a rapid screening of brucellosis in dairy cattle.