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Homologous housekeeping proteins in Nocardia--the NoDaMS proteomic database.

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Abstract

Nocardiosis is on the rise but hard to diagnose and the application of advanced subtyping technologies is called for. While the genomic sequence for the most virulent strain, *Nocardia farcinica* is available, proteome data are essentially non-existent. Nevertheless, they are necessary for functional studies on virulence and disease prevention. Here, comparative gel electrophoresis (PAGE)-based analyses of the five *Nocardia* strains SD1828, *N. africana* SD910, SD 925, *N. sp.* 1086, and *N. asteroides* N317 are discussed. The two-dimensional gel images of all strains are similar and dominated by housekeeping proteins such as chaperones and metabolic enzymes. The sequences of many proteins are highly homologous among strains and in some cases *Mycobacterium* sequences are closer matches to the unknown than those of *N. farcinica*. All mass spectrometry data are made available in the NoDaMS database at URL <http://ifg.uni-muenster.de/> (Proteomics-Projects-NoDaMS) for re-evaluation with fresh sequencing information. Assignments, homology analyses, and peptide matches are presented. This data review comprises the first comprehensive summary of proteomic data of *Nocardia*.